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OF

Arts, Sciences, and Literature.

BY

ABRAHAM REES, D.D. F.R.S. F.L.S. *S. Amer. Soc.*

WITH THE ASSISTANCE OF

EMINENT PROFESSIONAL GENTLEMEN.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS,

BY THE MOST DISTINGUISHED ARTISTS.

PLATES. VOL. III.

HYDRAULICS — NAVAL ARCHITECTURE.

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raised, as in act to fly; and the Poculum, or goblet, also affixed to it, which so forcibly points to the first cultivator of the vine, that Poculum which was the distinguished symbol, through all antiquity, of the amiable but inebriated patriarch; that Noah himself was the sacrificer, and his ark the Ship of the sphere; and that the Ara, or altar of the skies, has by no means any relation to the imaginary altar, upon which, according to the same allegorizing race, the gods swore to be revenged on the Titans, but that it, as well as the oblation of the Indian zodiac, was intended to commemorate that patriarch's grateful piety when he descended from the ark at Ararat, and built an altar, on which he offered an oblation to the God of heaven.

That in the constellation Orion, as before asserted, the mighty hunter of Scripture was in reality canonized, we have the authority of the Persian records to warrant our asserting; and those records are not a little corroborated by the very curious circumstance that Homer, who perhaps was no stranger to the Persian traditions, in the eleventh book of the Odyssey represents Orion in hell, as incessantly engaged in hunting wild beasts. With respect to the other branches of the great post-diluvian family, who were all elevated to sidereal honours, and shone forth from the respective orbs to which they were exalted, in imagined benignity or vengeance on the infatuated Sabian race, who bowed to them the knee of servile adoration, I flatter

myself that in the seventh chapter of this volume, which is devoted to the particular investigation of the original Oriental appellatives, and mythological history of the seven planets, by a chain of evidence the result of laborious research, it is proved, as far as the argument would admit of proof, that to Jupiter the Egyptians elevated the departed spirit of Ham, or Hammon (*Αμουν*), the founder of their nation, known by his symbol the ram; that the virtuous Shem, after death, continued still to shed on mankind a beneficent beam, in the Mithra, or solar deity of his progeny the Persians; that Japhet, denominated the lord of the isles of the Gentiles, was constellated in Canopus, the Egyptian god of mariners, and the pilot of the sacred Baris, from whom, in after ages, the Greeks borrowed the character, constituting him their Neptune, or god of the ocean; and that the renowned conqueror Belus, or Bali, is the warlike genius which rolls in its orbit the angry Mars. These most ancient and distinguished personages appear to me to be the genuine prototypes of all who, in future ages, in Greece and Italy usurped the respective appellations thus assigned them, and engrossed the honours which a more ancient nation had decreed to their venerated ancestors.

The Egyptians were a race at once so immersed in astronomical pursuits, and so grossly addicted to that species of symbolical worship, which is one principal source of

mythology, that the reader will not be greatly astonished to find on the original Egyptian zodiac, engraved in this volume, the eight Dii Majores of that superstitious nation, recognized by the symbolical animals respectively assigned them in their hieroglyphic system of theology. But the European astronomer can scarcely fail of being both surprised and gratified, while he contemplates the novel asterisms of the Indian zodiac, also engraved for public inspection in this volume, in which the planets are personified, and designated as carried round their orbits on animals intended to express their tardy or rapid revolutions. Thus, the Sun is mounted on a lion, to mark the ardour and fierceness of his beam: the Moon on an antelope, to denote the rapidity of her progress; Mercury on a hawk, a bird whose soaring wing explores the highest region of ether, while its undazzled eye gazes stedfastly on the orb of day, shining in meridian splendour. Mars, armed with a sabre, is borne on a war-horse through the heavens; Venus, the radiant harbinger as well of the opening as the closing day, is mounted on a camel, an animal patient and indefatigable, that pursues his unwearied journey over trackless deserts and burning sands, early and late, before the sun rises, and after it has declined. Jupiter rides on a boar, a slow and sluggish animal, the emblem of his tedious revolution; and Saturn

measures round the circumference of his vast orbit, exalted on the back of a heavy, unwieldy elephant.

For having devoted so considerable a portion of the subsequent pages to the defence of the Mosaic history, if any apology be necessary, I have this to urge in my vindication, that, leaving out of the question the hostile attacks recently made on that history and its author by infidelity, and urged with such increased virulence and malignity at the present momentous crisis, the writings of that sublime and venerable legislator must necessarily claim a very large share of the attention of every historian of those ancient periods, the transactions of which form the principal subject of this volume. Subordinate and laborious as is the station, which, for many years, it has been my lot to fill in the profession of which I am a member, disappointment and neglect have not yet shaken the zeal of my attachment to it; nor could I avoid feeling equally with my brethren in the higher orders of the establishment, sentiments of just indignation at the insults offered to that profession, and indeed to the whole Christian church, by the insinuations of M. Volney, and other professed infidels of the age, that the noble system of the national theology rests upon no better basis than an Egyptian Allegory, relative to the introduction of evil into the world; that the fabulous Crishna of India should be re-

presented, both in name, character, and the miracles imputed to him by a superstitious people, as the prototype of the Christian Messiah; that in a fanciful hypothesis relative to the celestial Virgo, and the sun rising in that sign, the immaculate conception should be ridiculed, the stupendous event of the resurrection scoffed at, and the Sun of righteousness be degraded to a level with his creatures. I will not propagate the contagion, by referring either to the work, or the page in which these dreadful blasphemies are to be found. But the fact is notorious, and the result of the continued diffusion of such pernicious doctrines must be the disruption of all the bands of human society, which awful and recent experience instructs us cannot exist without the sanctities of religion. I must again assert my perfect coincidence with the opinion of Sir William Jones,* whom an intimate acquaintance with the mythology and history of Oriental nations availed not to make a sceptic, that if the Mosaic history be indeed a fable, the whole fabric of the national religion is false, since the main pillar of Christianity rests upon that important original promise, that *the Seed of the woman should bruise the head of the Serpent*.

Let others pervert, if they please, the noble science of astronomy to the subversion and annihilation of every thing hitherto considered sacred among men; let them,

* See that opinion cited in this volume, p. 39.

in the vain hope of proving Christianity a system equally baseless and contracted, with the slender line of human intellect, *gauge* the vast abyss of the heavens for innumerable worlds, rolling through ages that defy human computation, and dive into the darkest recesses of the planet we inhabit, for arguments of its immense duration, from the beds of granite entombed in its bowels; it has been my incessant endeavour in this as well as in a former publication, to make that exalted science subservient to nobler purposes; to collect into one centre the blended rays shed by the heavenly orbs, and direct their powerful focal splendour to the illustration of those grand primeval truths which form the basis of the national Theology; a Theology so inseparably connected with the NATIONAL GOVERNMENT.

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CHAPTER VI.

In the Chapter immediately preceding, the Reader having been presented with the abridged History of ASTRONOMY, according to the GREEKS, in the present Chapter is introduced to a wider Survey of that Science; and a more ancient Astronomical Mythology than that of Greece is gradually unveiled. Lest the Author should appear to have been guided in this Survey by the Spirit of HYPOTHESIS, rather than the Love of TRUTH, and to have selected, as Objects of Discussion, such Constellations as may appear more particularly favourable to that Hypothesis, he examines, at considerable Length, the ancient History of all the Constellations mentioned by HESIOD and HOMER; and proves, that so far from being of Grecian Origin, they were known immemorially, but under other Appellations, by the Astronomers of CHALDEA, INDIA, PHŒNICIA, and EGYPT—*The Constellations* thus mentioned by HESIOD and HOMER, as useful in Husbandry, are only SEVEN in number, viz. SIRIUS, ORION, ARCTURUS, PLEIADES, THE HYADES, BOOTES, and THE LESSER WAIN—These are considered separately, and in the Order in which they are enumerated.

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CHAPTER X.

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CHAPTER XI.

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PART III.

CHAPTER XII.

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CHAPTER XIII.

CONTAINING THE ORIENTAL ACCOUNTS OF THE GENERAL DELUGE.

and perished there, at the remote, imagined Period, when the line of the Ecliptic ran through the Centre of Asia, and, the Arctic Circle being included in the Northern Tropic, the Climate of Siberia was sufficiently genial to cherish the Inhabitants now found only in the Torrid Zone—All the great recorded Inundations of the Globe, in ancient Periods, to be referred to the Noachic Deluge—and all the Indian and Platonic Doctrines, relative to the successive Deluges and Conflagrations of the Earth, to be traced to traditional Fragments of the Ante-diluvian Sethite Prophecy on that Subject.—Mr. Whitehurst's System, relative to Volcanoes, (which he asserts) principally contributed to bring about the Deluge, the most rational and judicious.—The MATSYA, or FISH AVATAR—the VARA, or BOAR AVATAR—the COURMA, or TORTOISE AVATAR—successively detailed. All have immediate Reference to the Deluge of Noah.

A SHORT ACCOUNT OF THE ENGRAVINGS IN THE FIRST VOLUME,

*With Directions to the Binder for properly placing them.**

Plate I. The frontispiece, is a majestic whole-length figure of ISIS OMNIA, or universal nature personified, the Indian Isa, and Grecian Ceres; it is exhibited in proof of the identity of the Indian, with the Egyptian and Grecian character. She bears on her head the lunar crescent: her robe, covered with stars, represents the firmament: she bears in one hand a sistrum, emblematical of the elements, and in the other a basket of grain, as the prolific parent of all things; and she stands with one foot on the ocean, the other on the earth: the whole depicted as she is described by Apuleius to have appeared, and been seen by himself, in the Eleusinian mysteries, *frontispiece*

Plate II. Exhibits ASIATIC DEVICES, allusive to the Cosmogony. 1. The bull of Japan butting with his horn against the mundane egg; 2. The egg of creation, encompassed with the genial folds of the Agathodaimon, or, in other words, hatched by the good genius; 3. The mundane egg adored at Heliopolis, surmounted with the lunar crescent, - *to face p.* 37

Plate III. Represents Veeshnu in the form of CREESHNA, the Apollo Nomius of India, in the eighth Avatar, charming with his pipe the shepherds and flocks of Mathura, - - - *to face p.* 123

Plate IV. Contains the ORIENTAL, or INDIAN ZODIAC; with the planets designated riding on animals, symbolical of their tardy or rapid revolutions: as Mercury on an eagle, Venus on a camel, Saturn on an elephant, &c. The Earth is represented, according to the oldest Indian notion, which marks the antiquity of the design, in the centre, as a flat surface with a stupendous mountain rising in the middle, behind which they supposed the sun to rise and set; and with four cities, built with bricks of gold at the four cardinal points, - - - - - *to face p.* 309

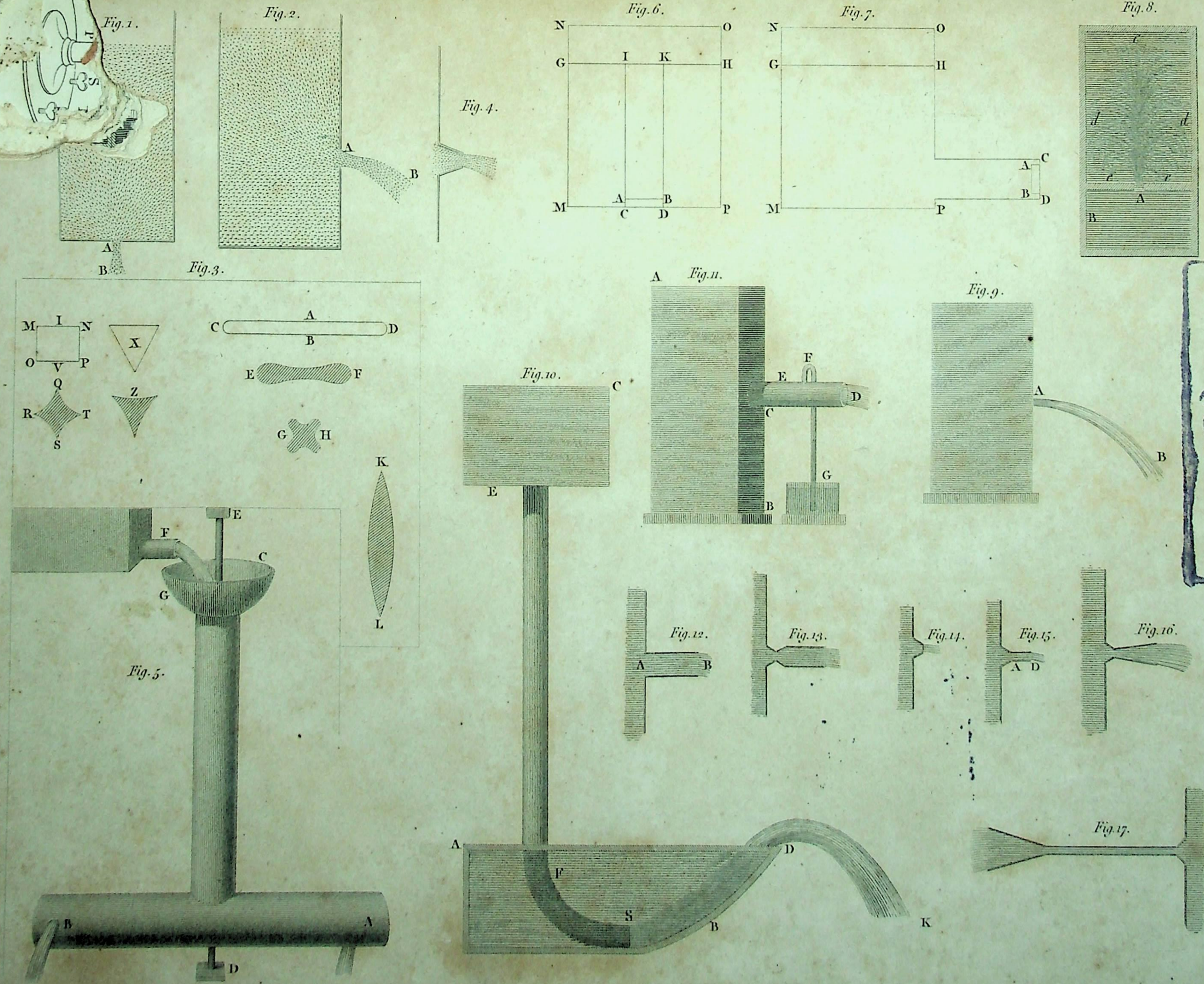
* This leaf to be inserted immediately after the Contents.

Plate V. Exhibits the MATSYA AVATAR, or first incarnation of Veeshnu, in the form of a FISH, to preserve a virtuous family during the incursion of a great deluge. Brahma is represented above, decorated with allegorical symbols; and his four sons, or heads of the four tribes, are seen standing below in an attitude of supplication, - - *to face p.* 453

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Plate VII. Represents the COURMA AVATAR, or third incarnation of Veeshnu, in the form of the TESTUDO, or TORTOISE, which supports on its back the earth, sinking in the waters, and convulsed by the assaults of dæmons. The three preceding Avatars, which contain the first outlines of the genuine history of India, decidedly point to the event of the GENERAL DELUGE, - - - - *to face p.* 509

PLATES IN THE SECOND VOLUME.

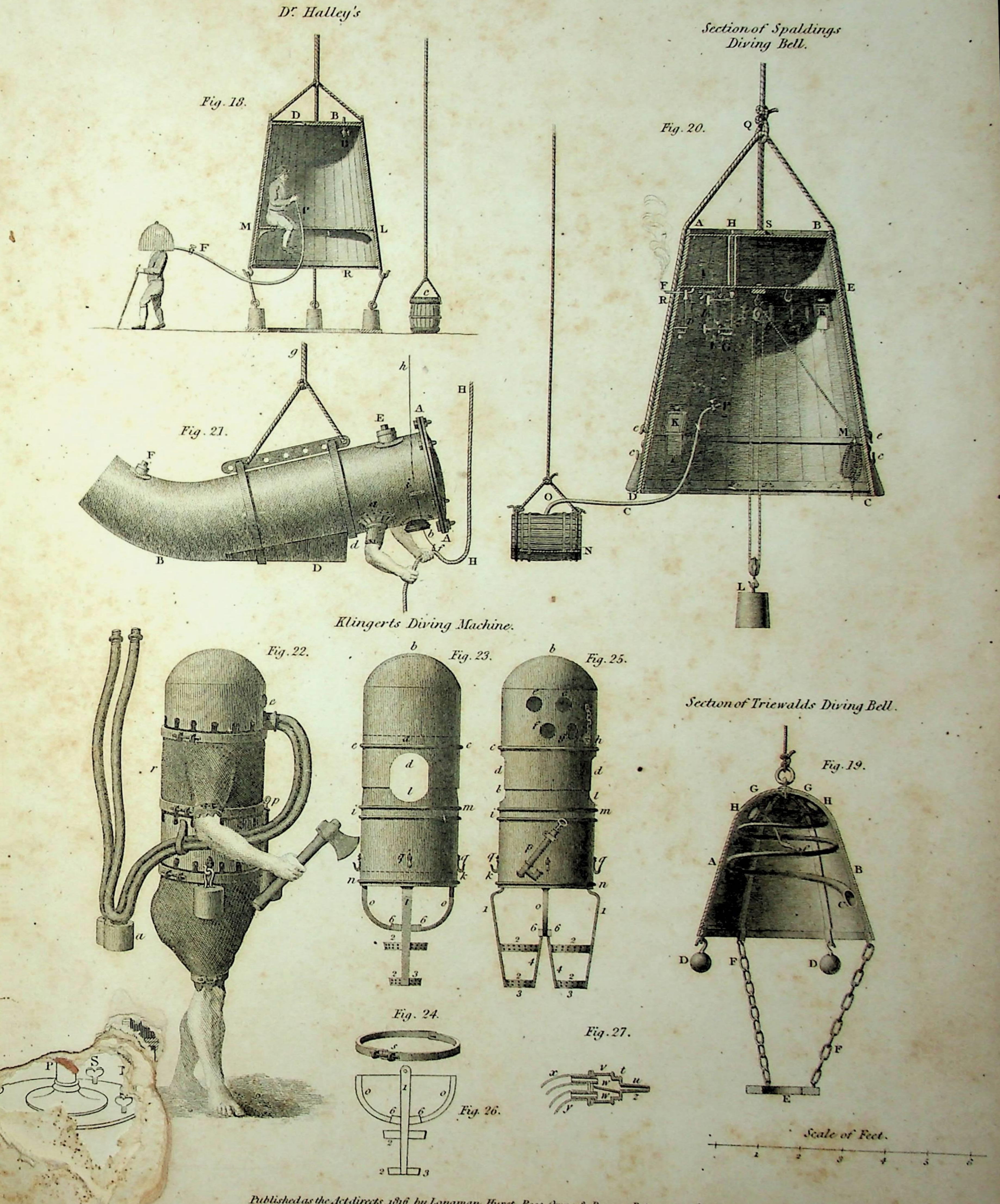


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HYDRAULICS.

PLATE I

DIVING BELL.

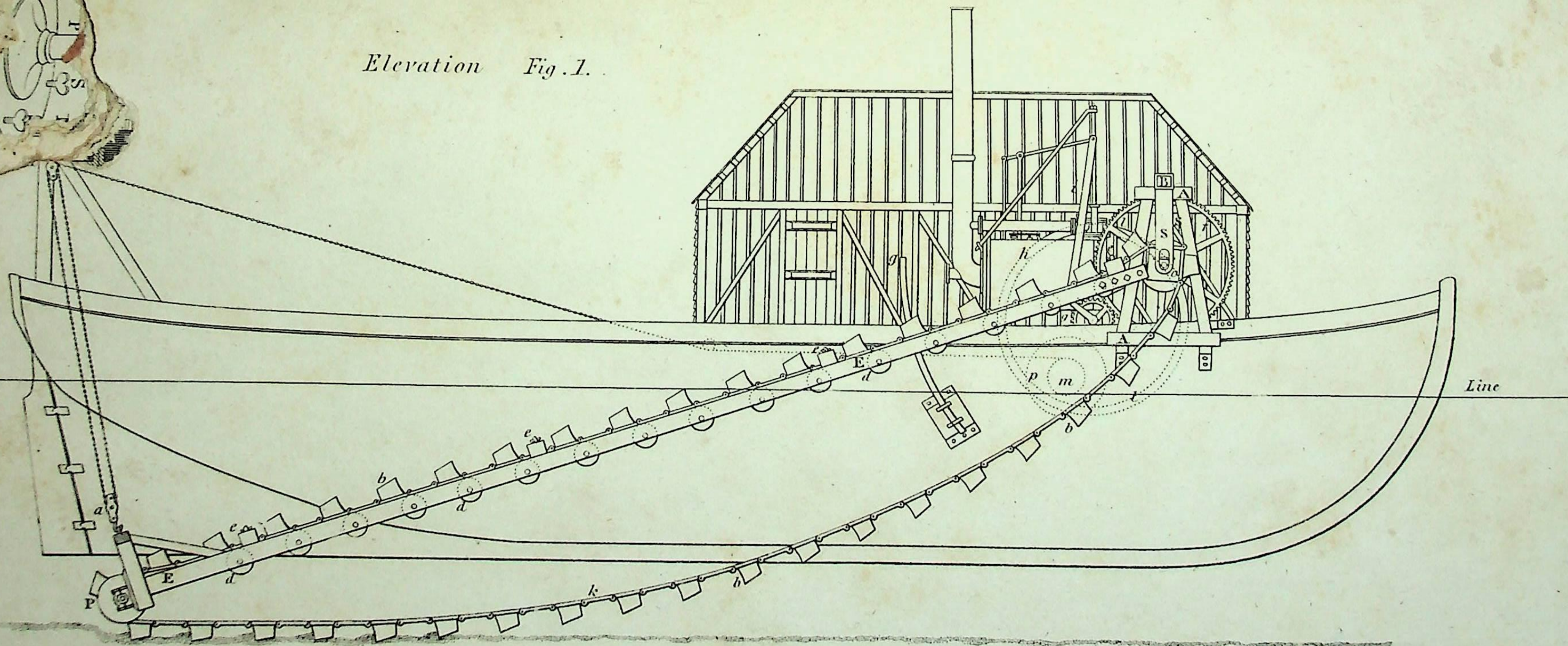


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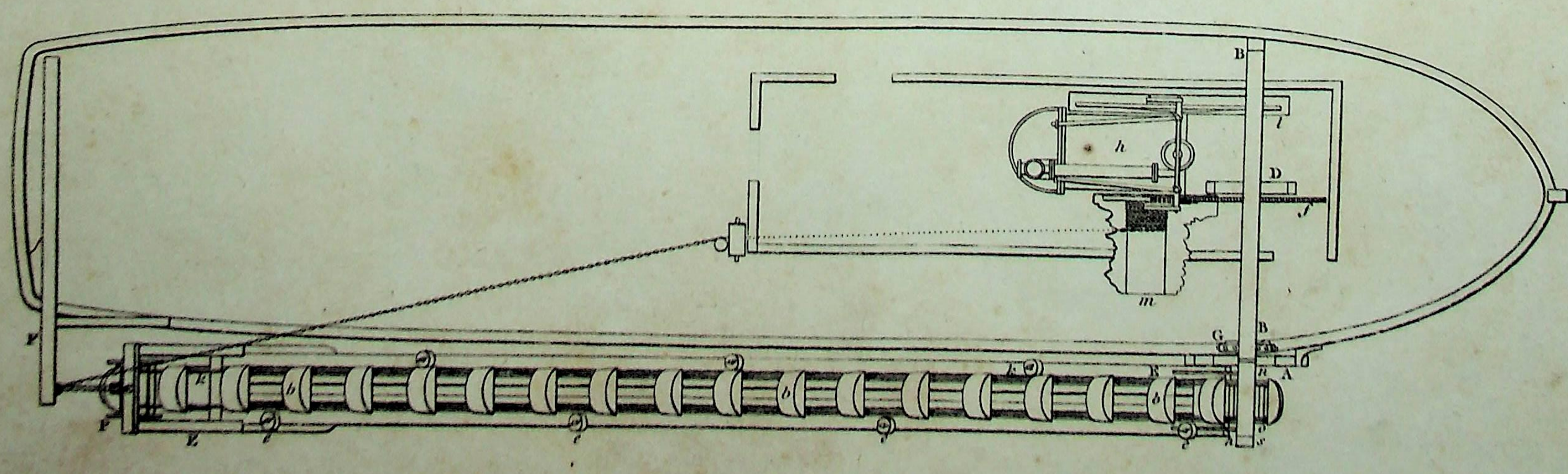
Lowry Sc.

Dredging machine used on the River Thames to deepen the channel.

Elevation Fig. 1.



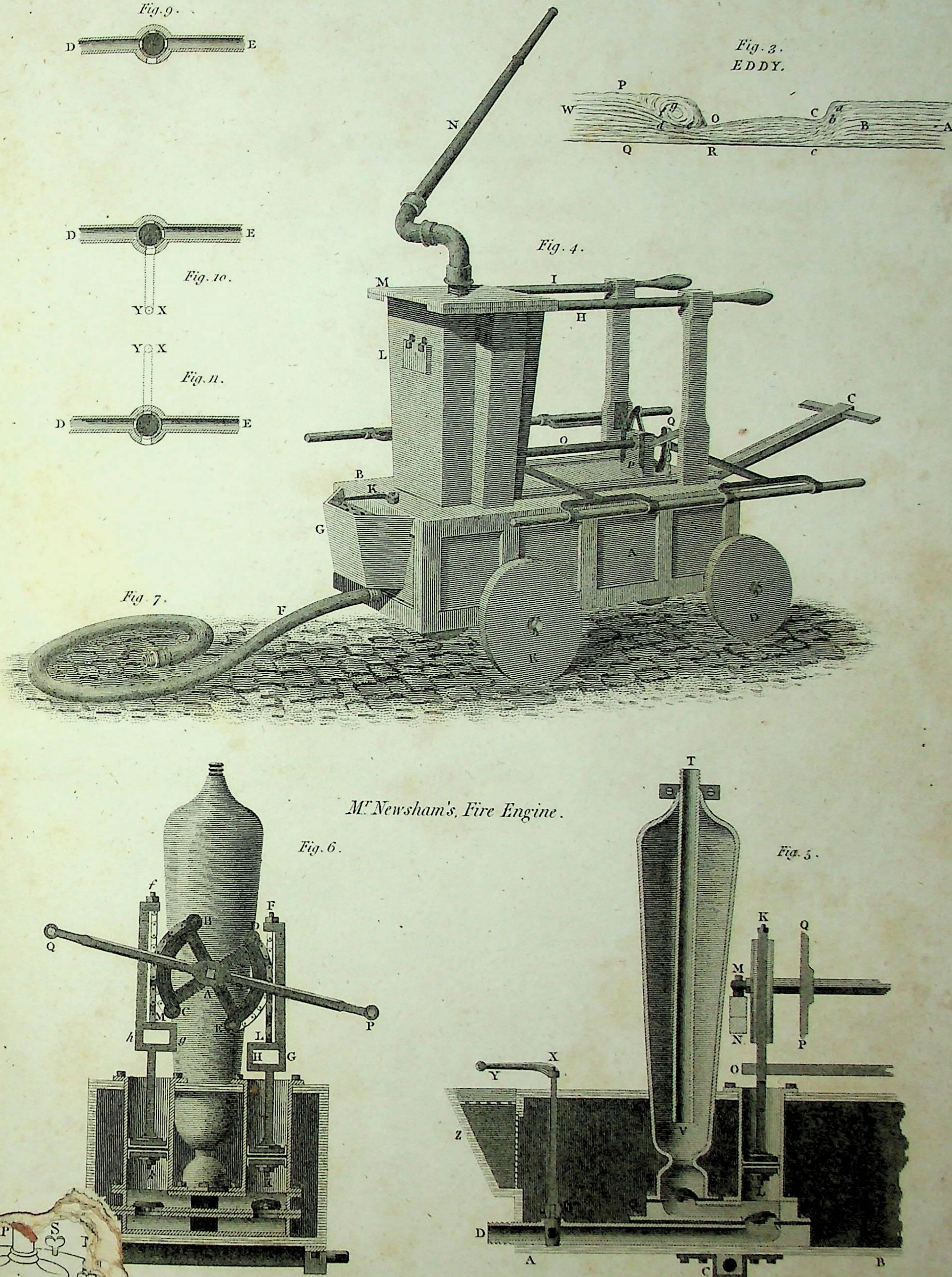
Plan Fig. 2.



J. Farey Junr. delin.

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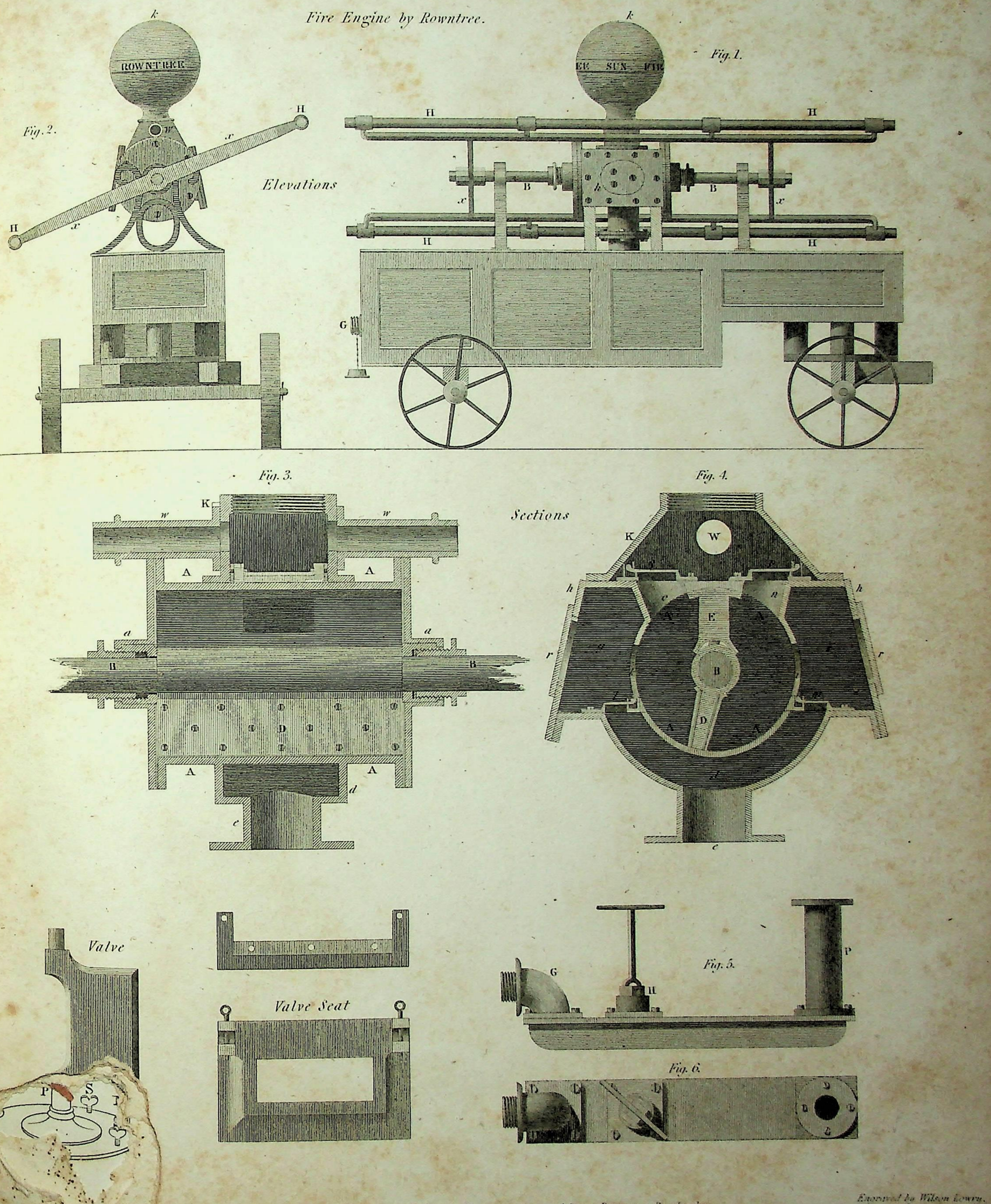
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Mr. Newsham's, Fire Engine.

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HYDRAULICS.

FLUIDS.

Fig. 1.

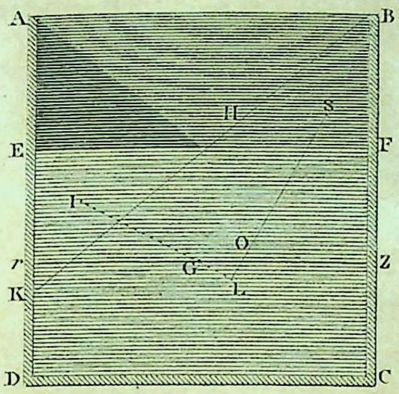


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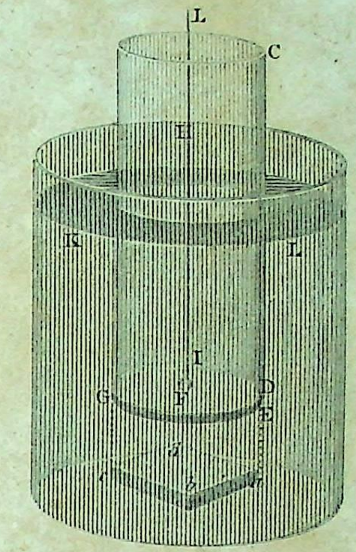


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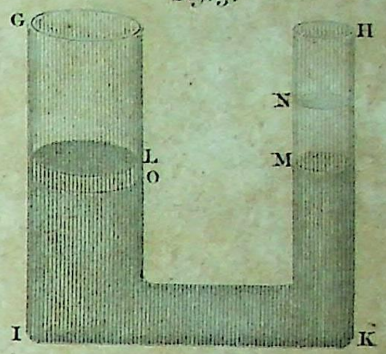


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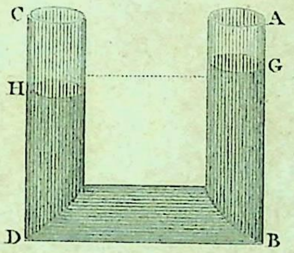


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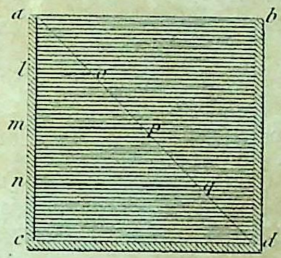


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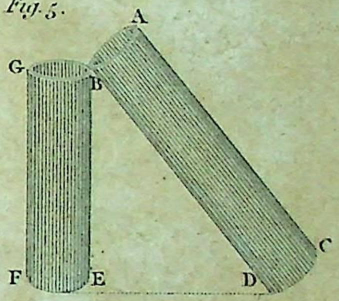
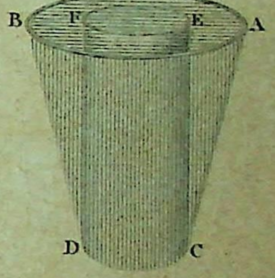


Fig. 6.



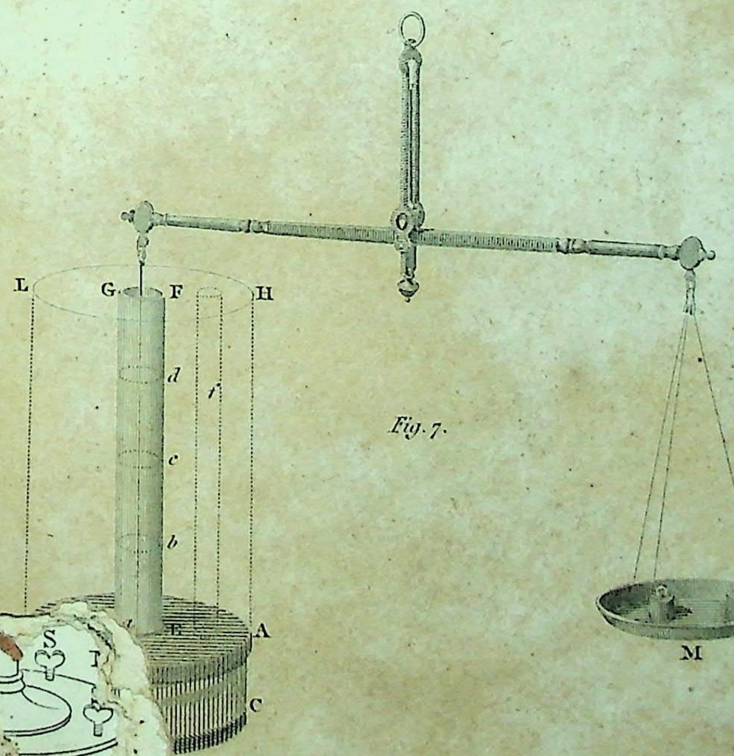
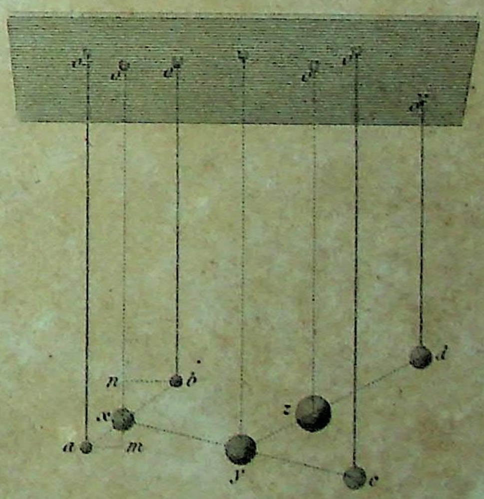


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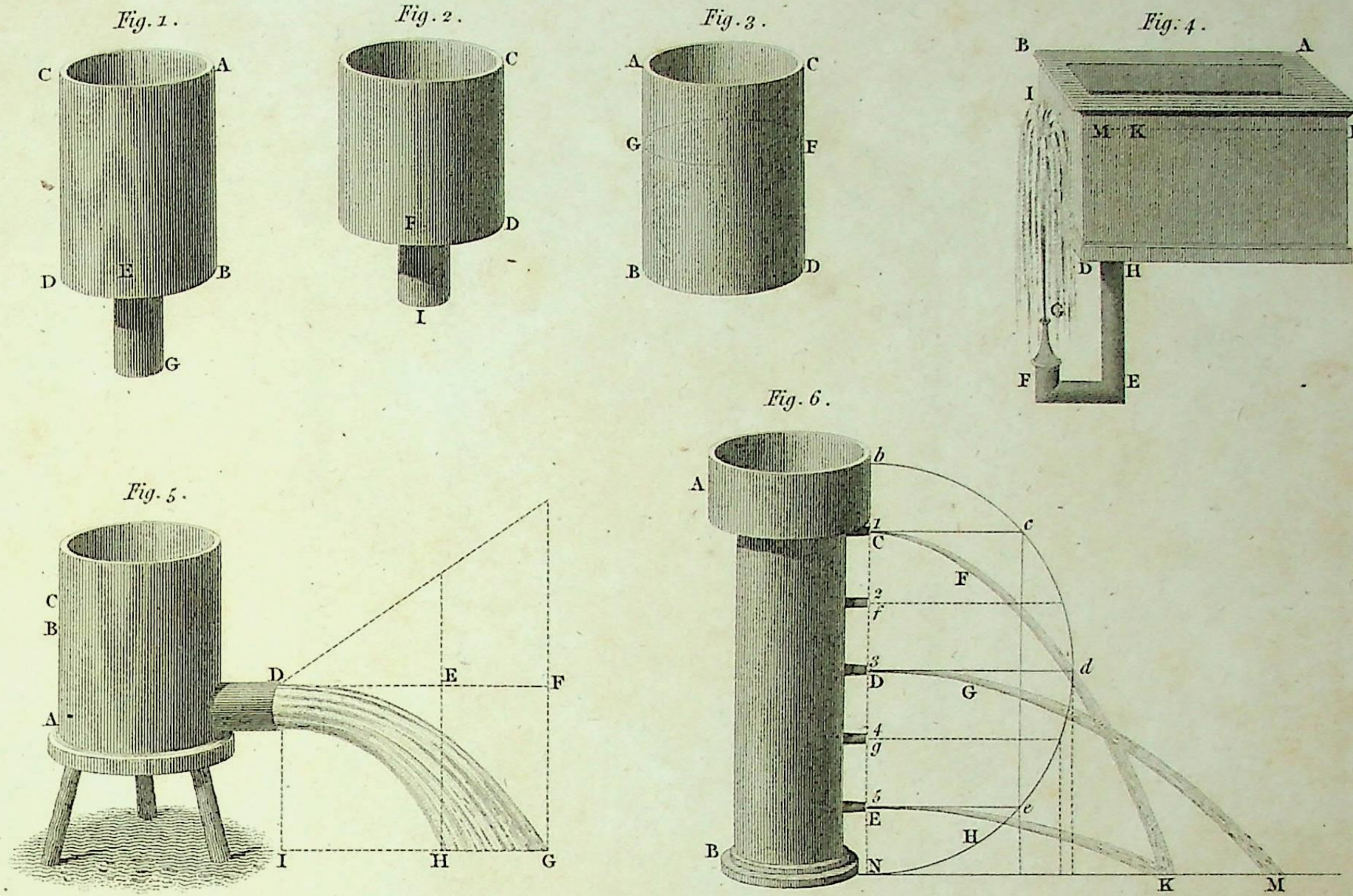
Fig. 9.



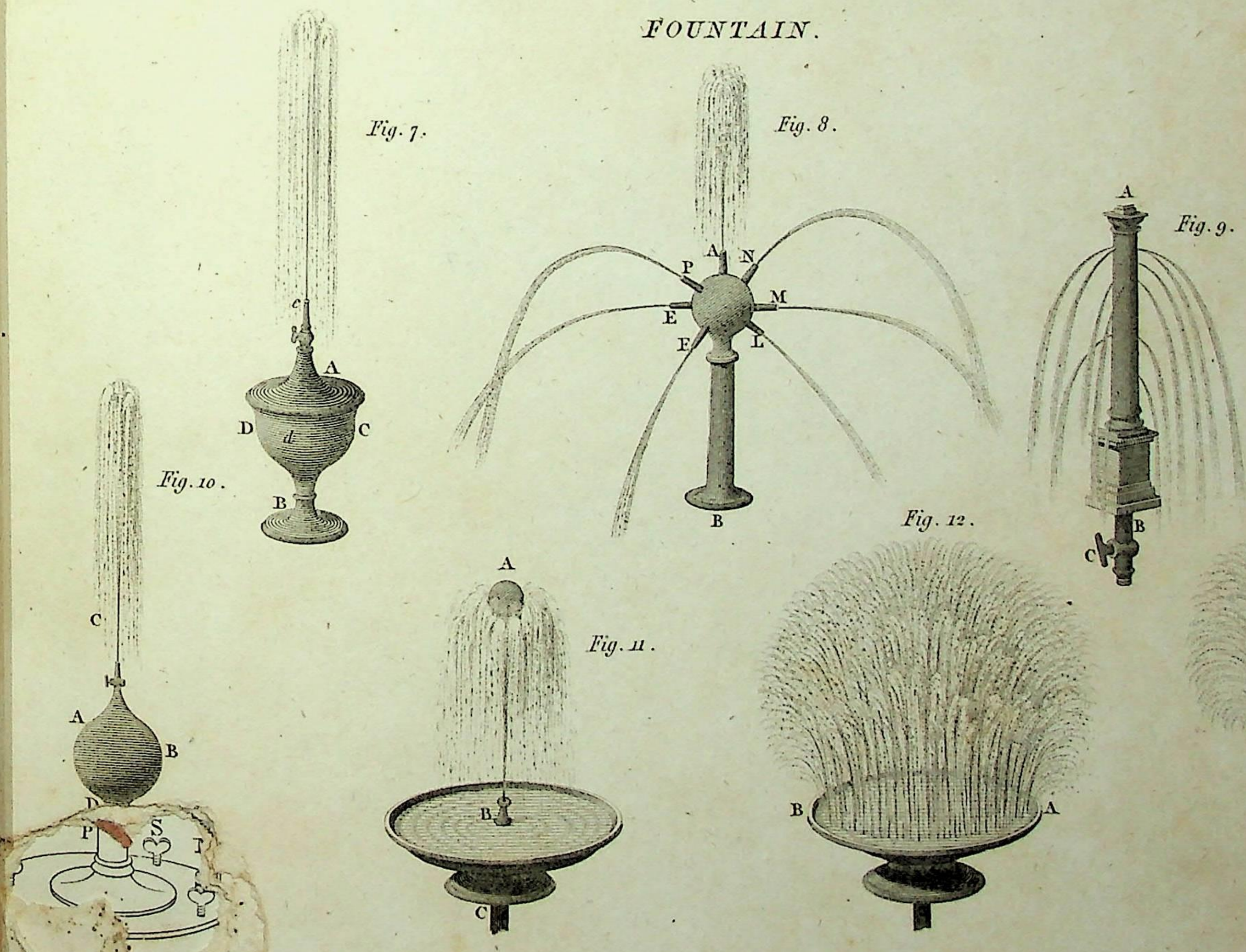
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FLUIDS.



FOUNTAIN.



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FOUNTAINS.

Fig. 1.

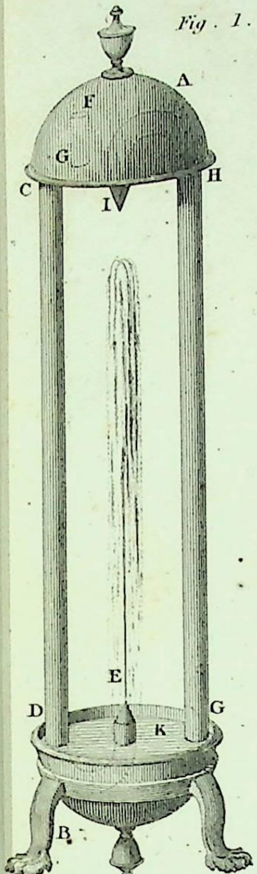


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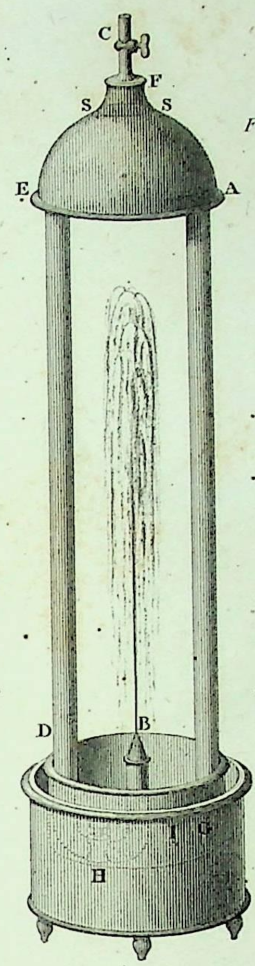


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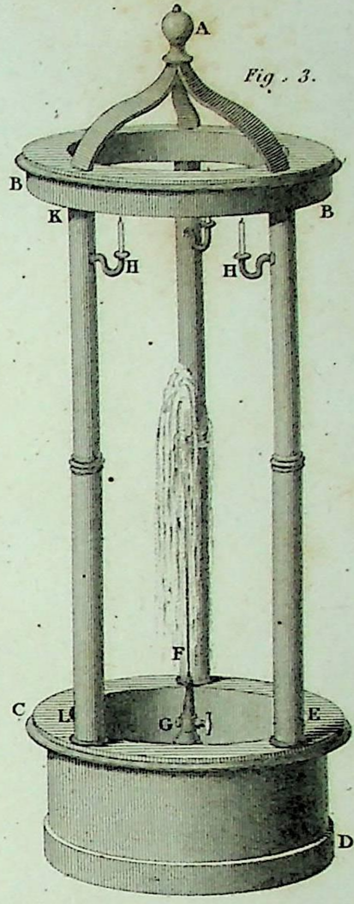


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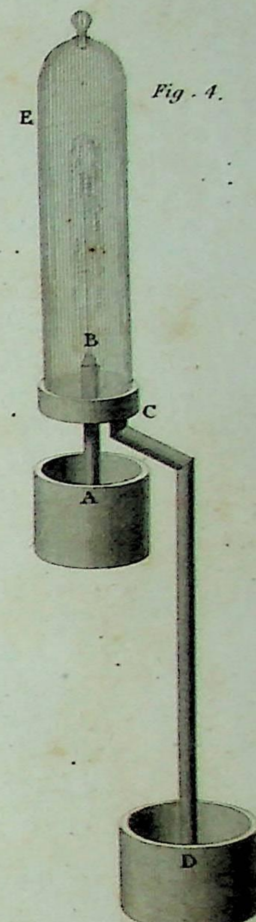


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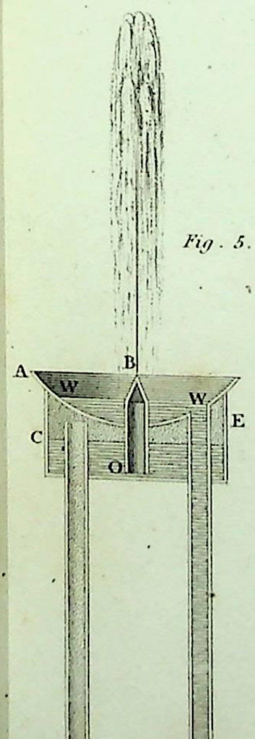


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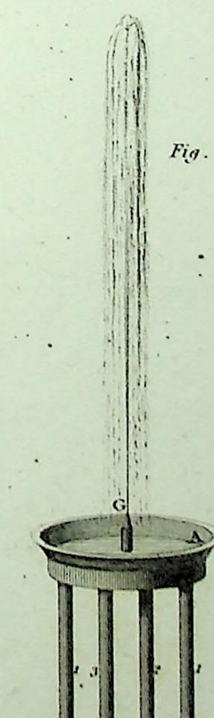
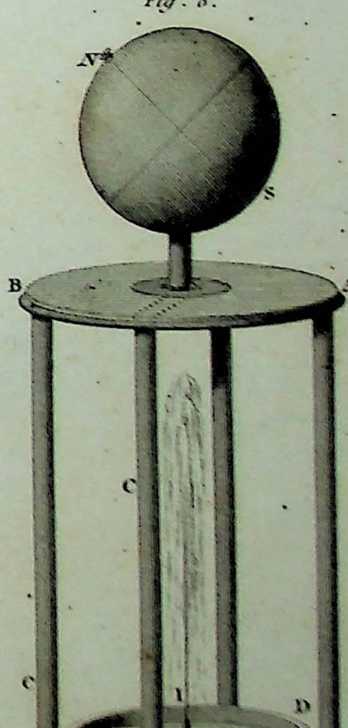


Fig. 7.



Fig. 8.

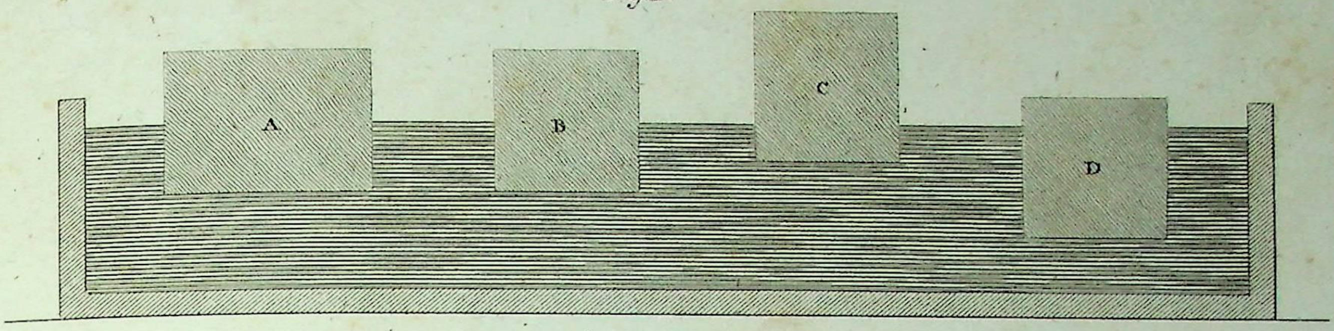


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Lowry Sculp.

FLOATING.

Fig. 1.



HIERO'S CROWN.

Fig. 3.

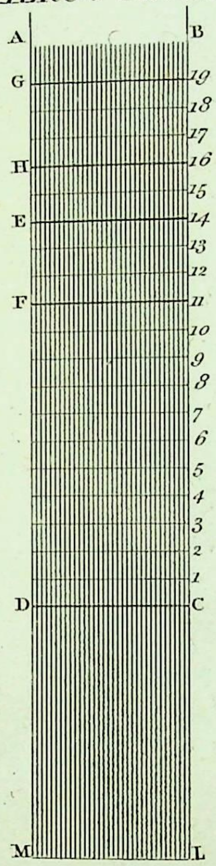


Fig. 2.

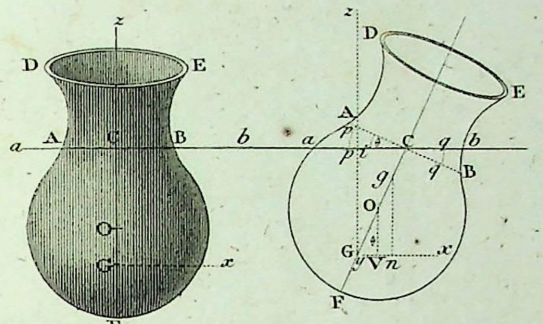


Fig. 4.

HYDROMANCY.

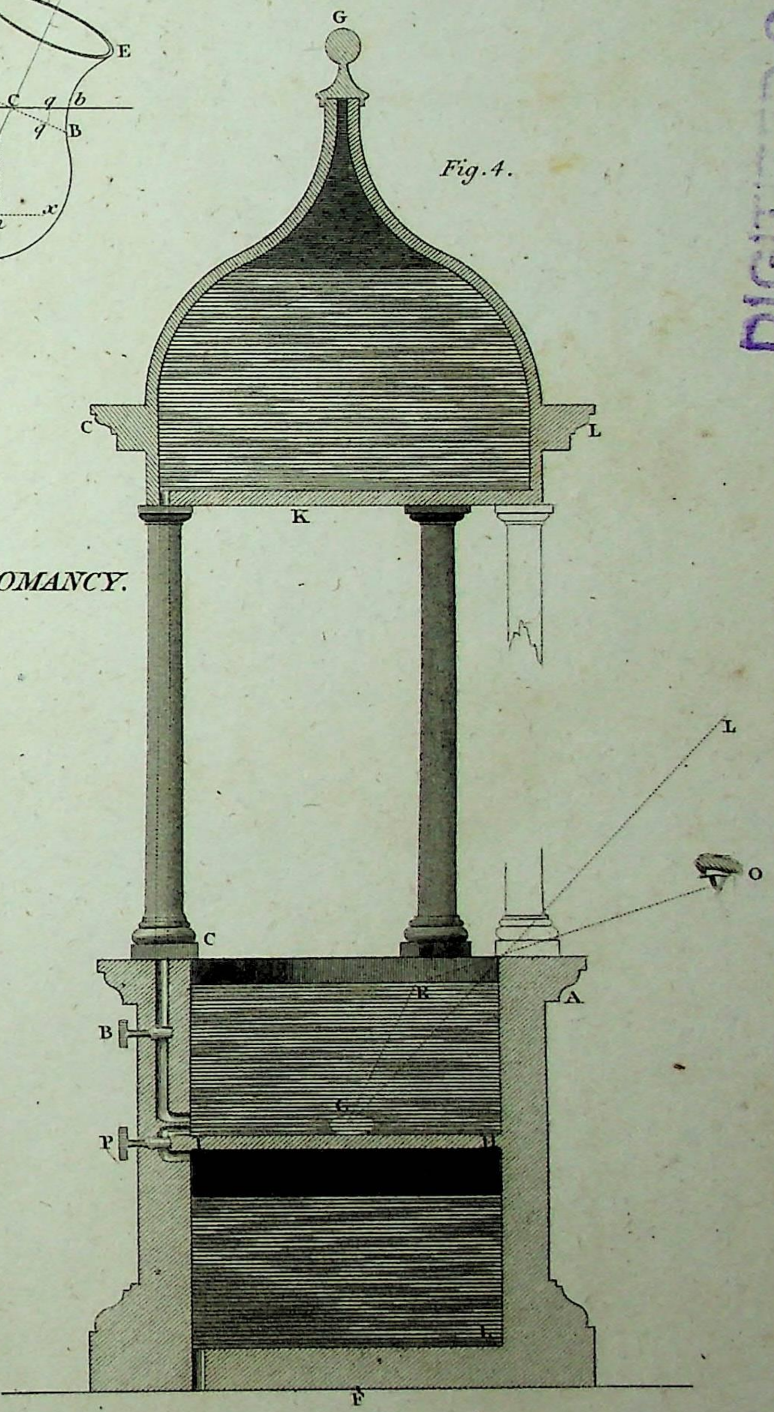
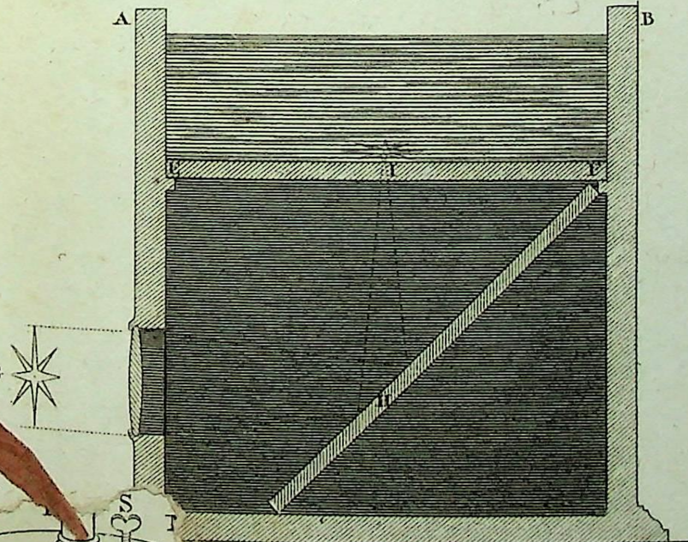


Fig. 5.

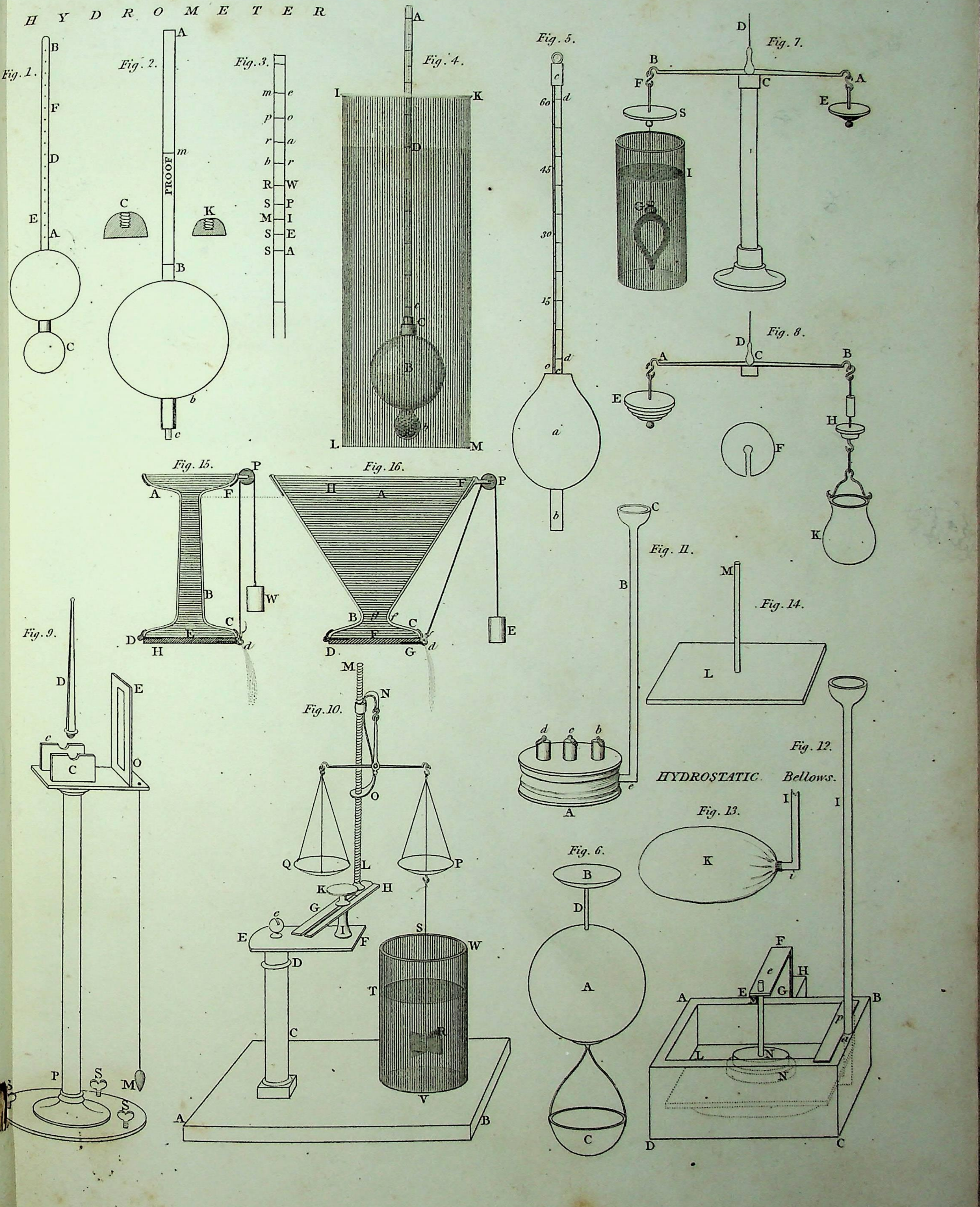


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Lowry sculp.

HYDRAULICS.

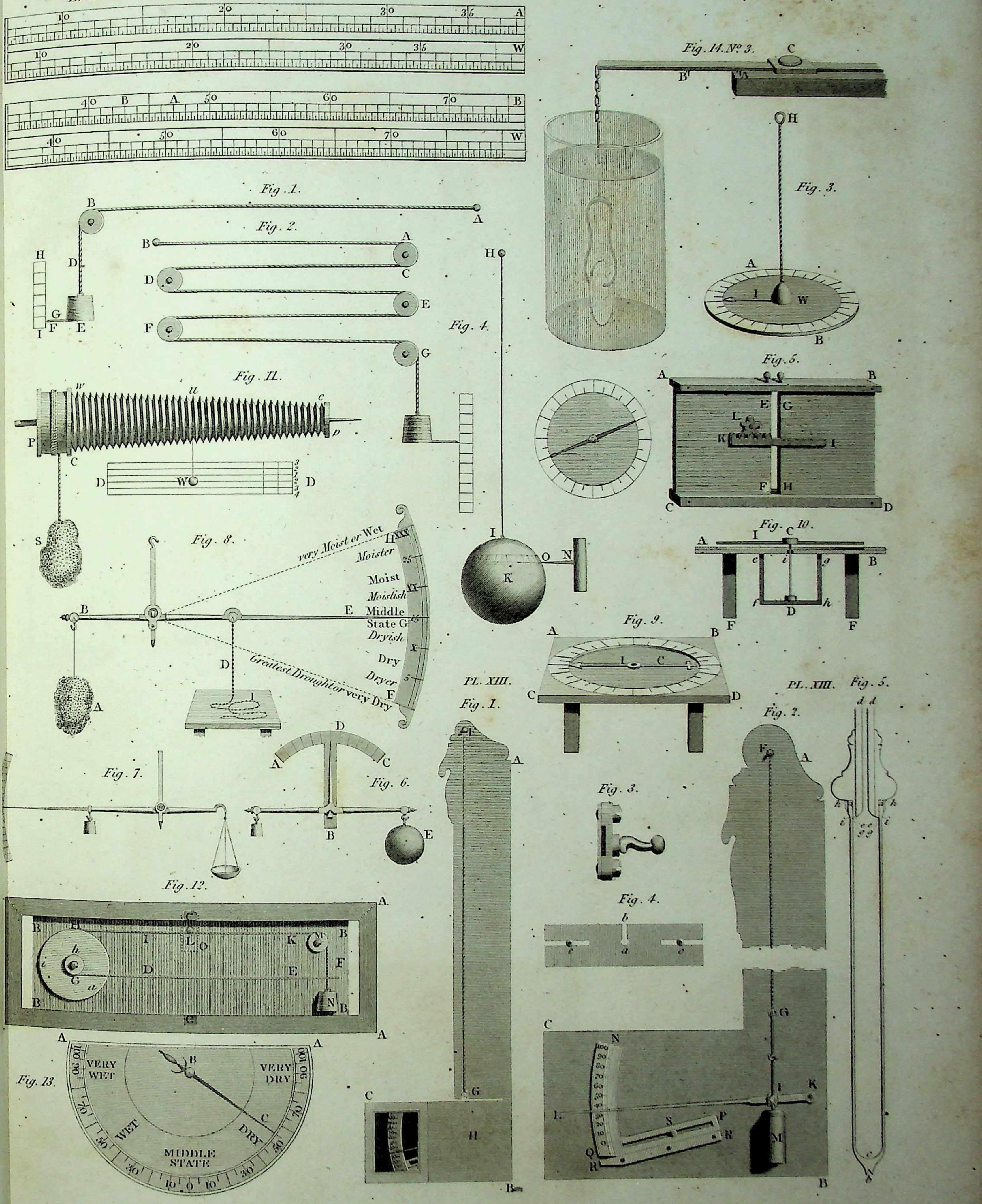
HYDROMETER &c.



Published as the Act directs 1808 by Longman Hurst Rees Orme & Brown, Paternoster Row. Lowry Sc

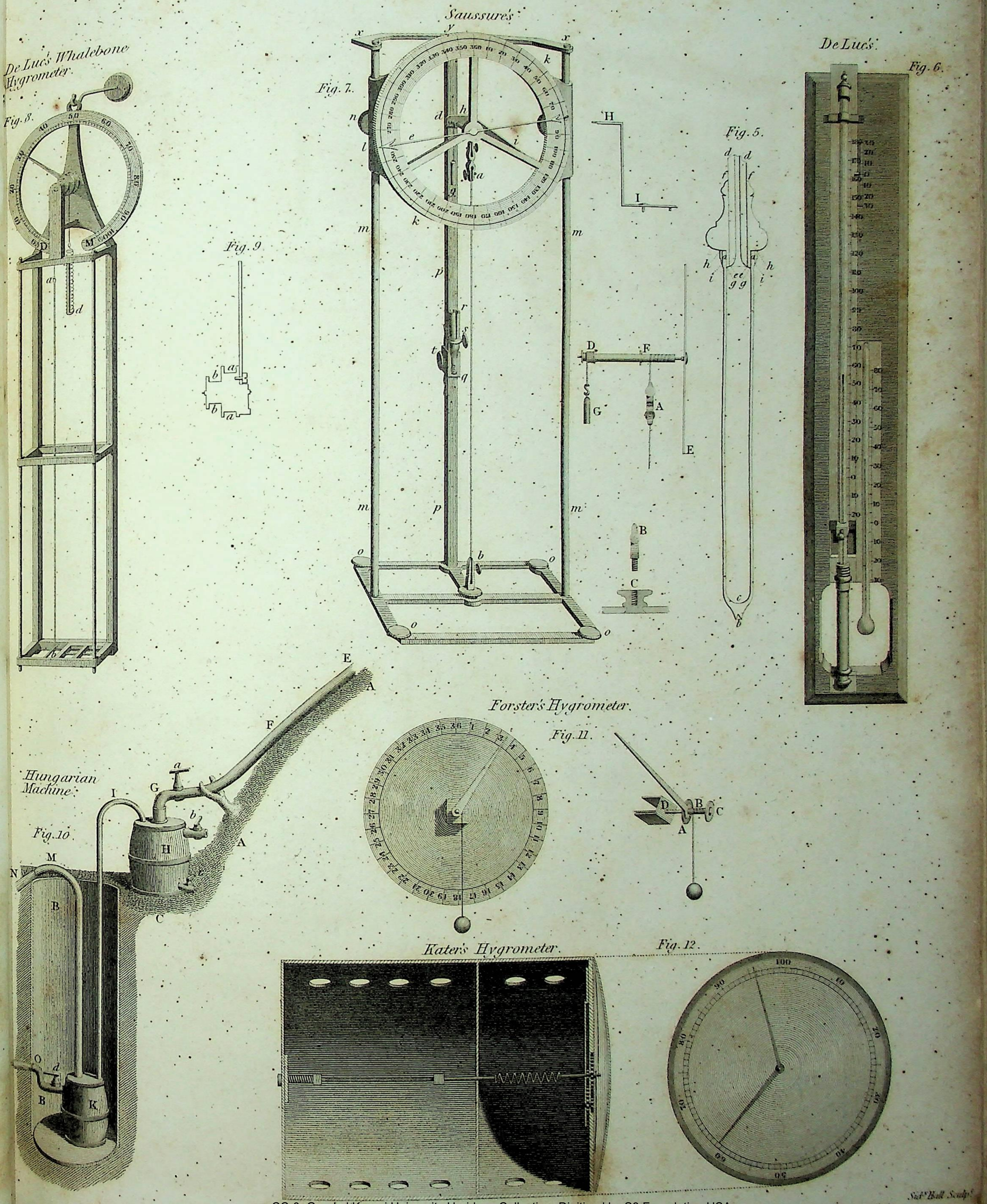
HYGROMETER.

Bradford's HYDROSTATICAL Instrument. Fig. 14.



Published ... Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

HYGROMETER

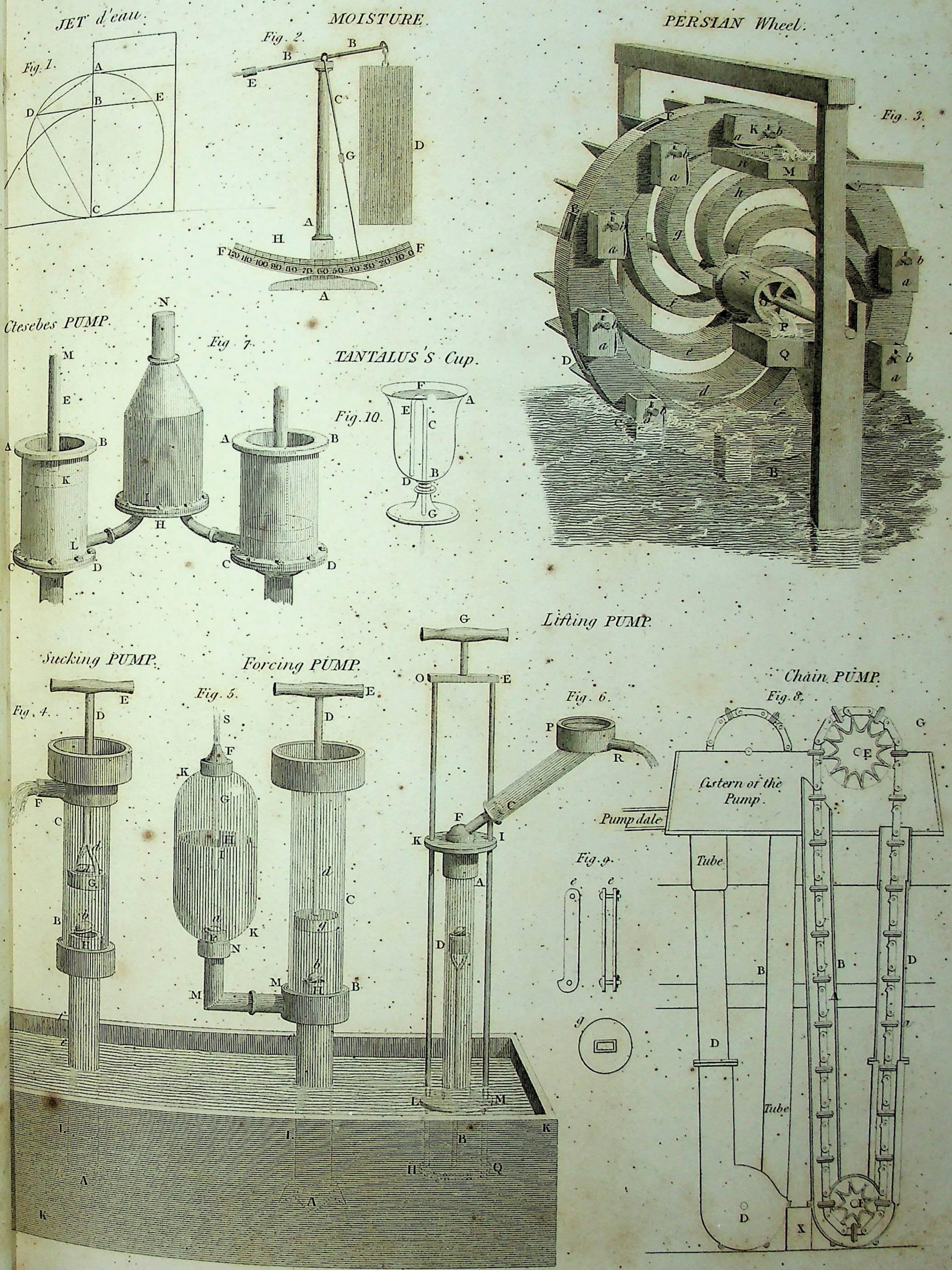


Sid. Hall Sculp.

Published as the Act directs, 1820, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

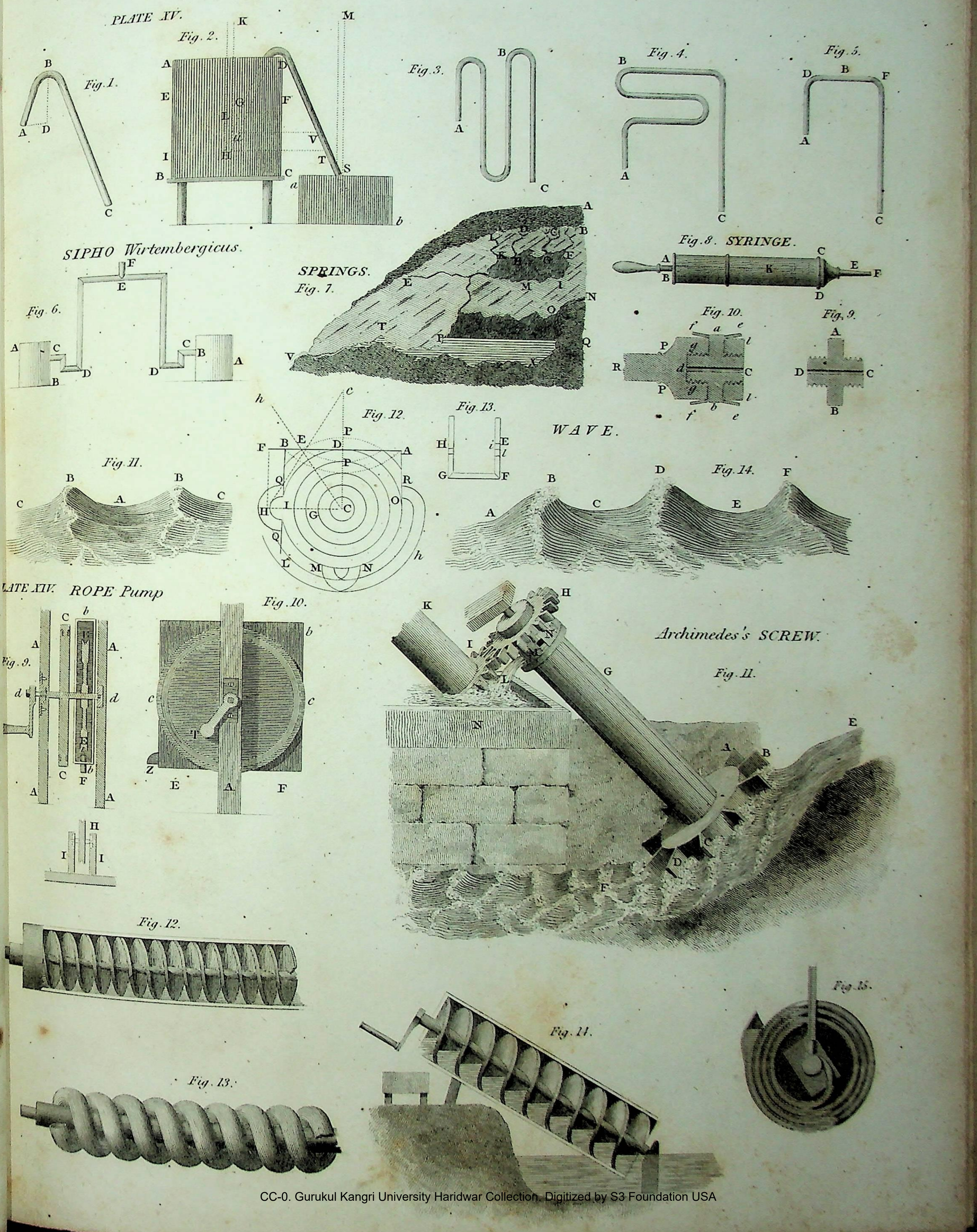
HYDRAULICS.

PLATE XIV.



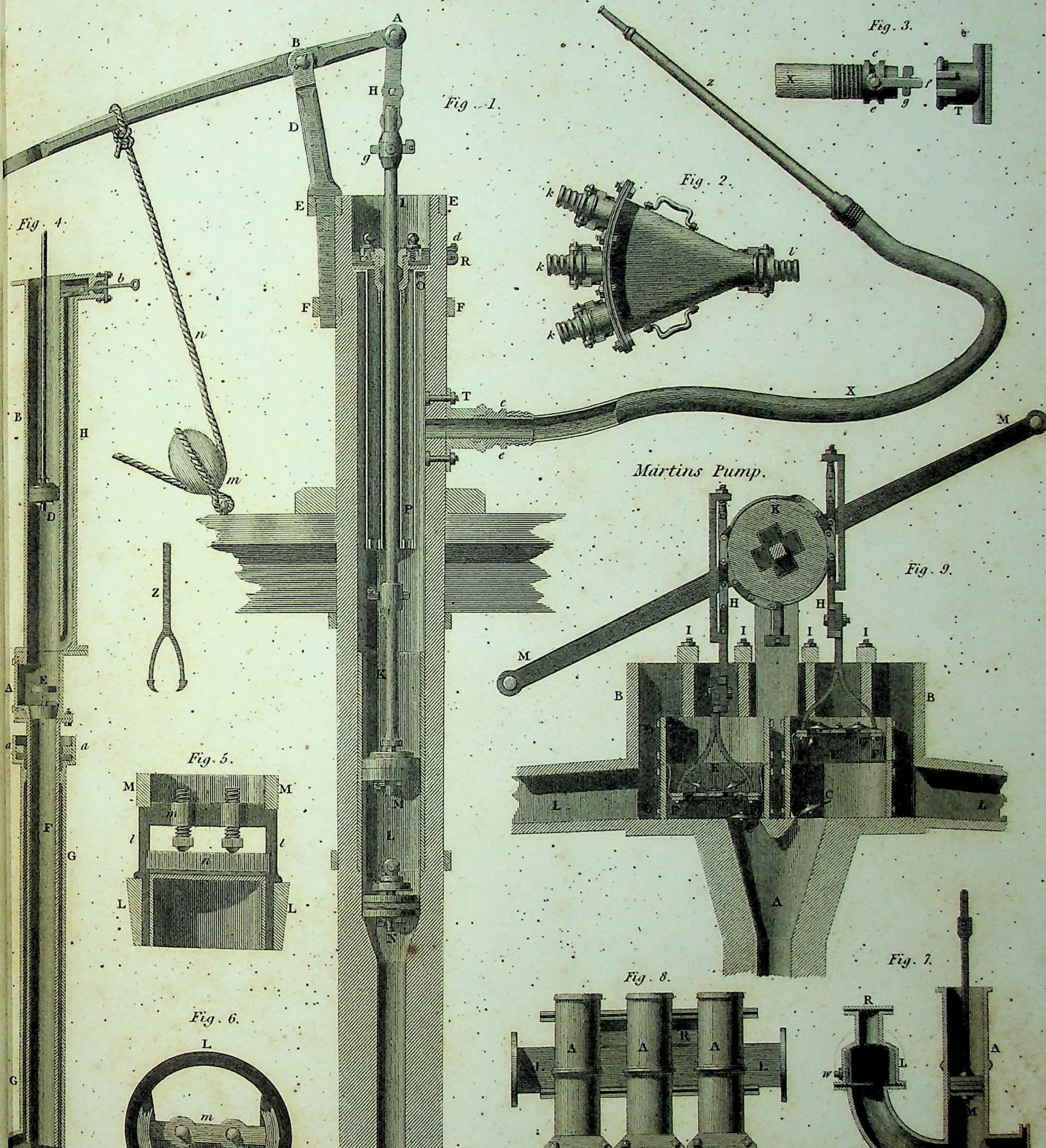
Published as the Act directs ... by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry sc.

SIPHON.


PLATE XV.
Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
SIPHO Wirtembergicus.
Fig. 6.
SPRINGS.
Fig. 7.
Fig. 8. SYRINGE.
Fig. 10.
Fig. 9.
Fig. 12.
Fig. 13.
WAVE.
Fig. 11.
Fig. 14.
PLATE XIV. ROPE Pump
Fig. 9.
Fig. 10.
Archimedes's SCREW.
Fig. 11.
Fig. 12.
Fig. 13.
Fig. 14.
Fig. 15.

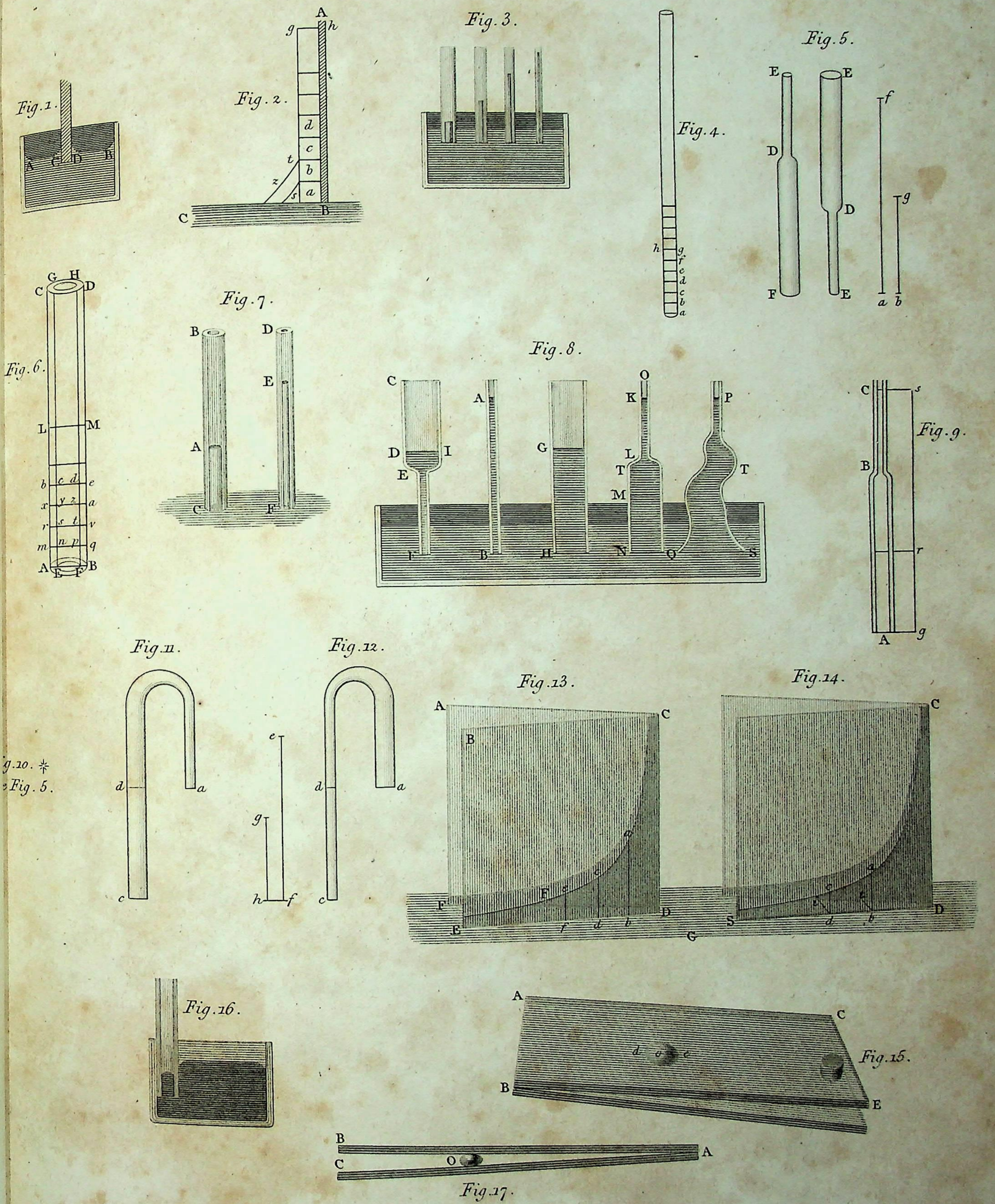
PUMPS.

Capt. Jekyls, improved Ships Pump.



J. Farey del. Lowry Sculp.

Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.



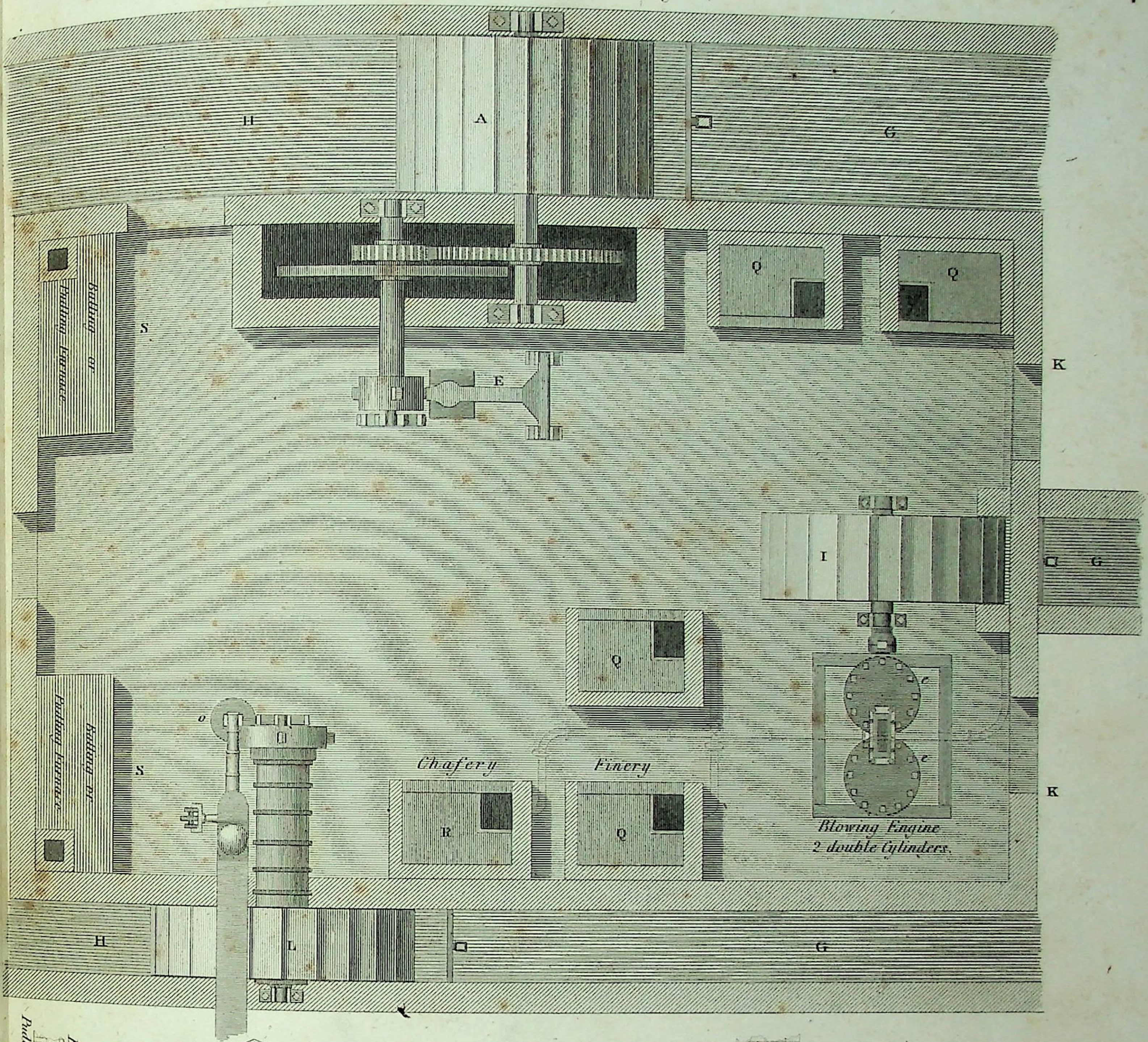
Published as the Act directs, May 1st 1806 by Longman, Hurst, Rees & Orme Paternoster Row.

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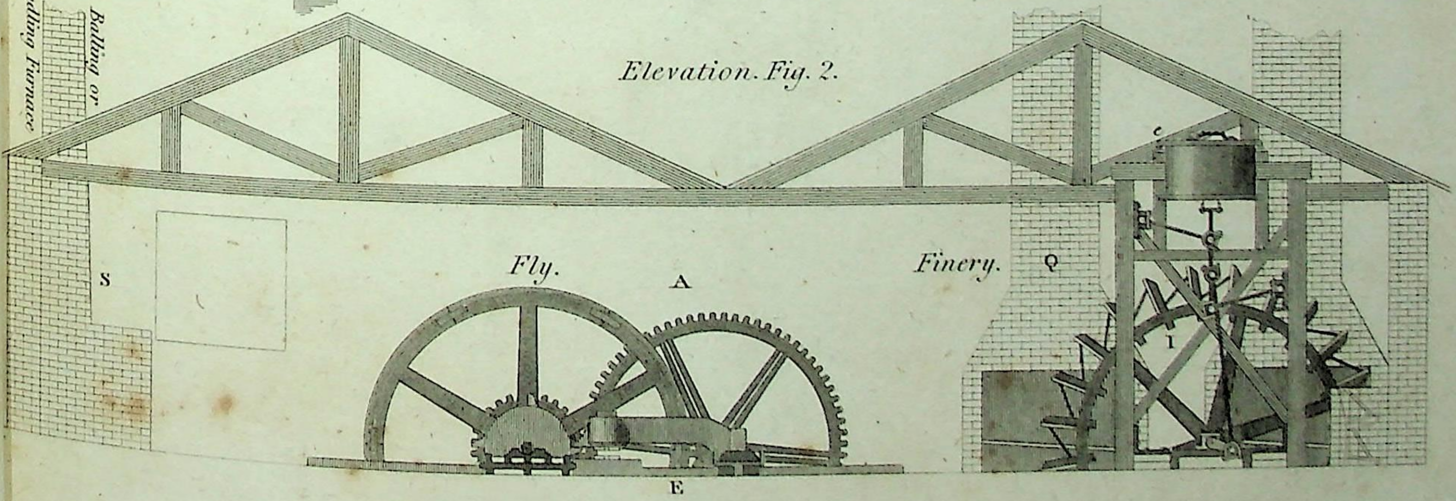
IRON MANUFACTURE.

PLATE I.

Fig. 1. Plan of an Iron Forge.



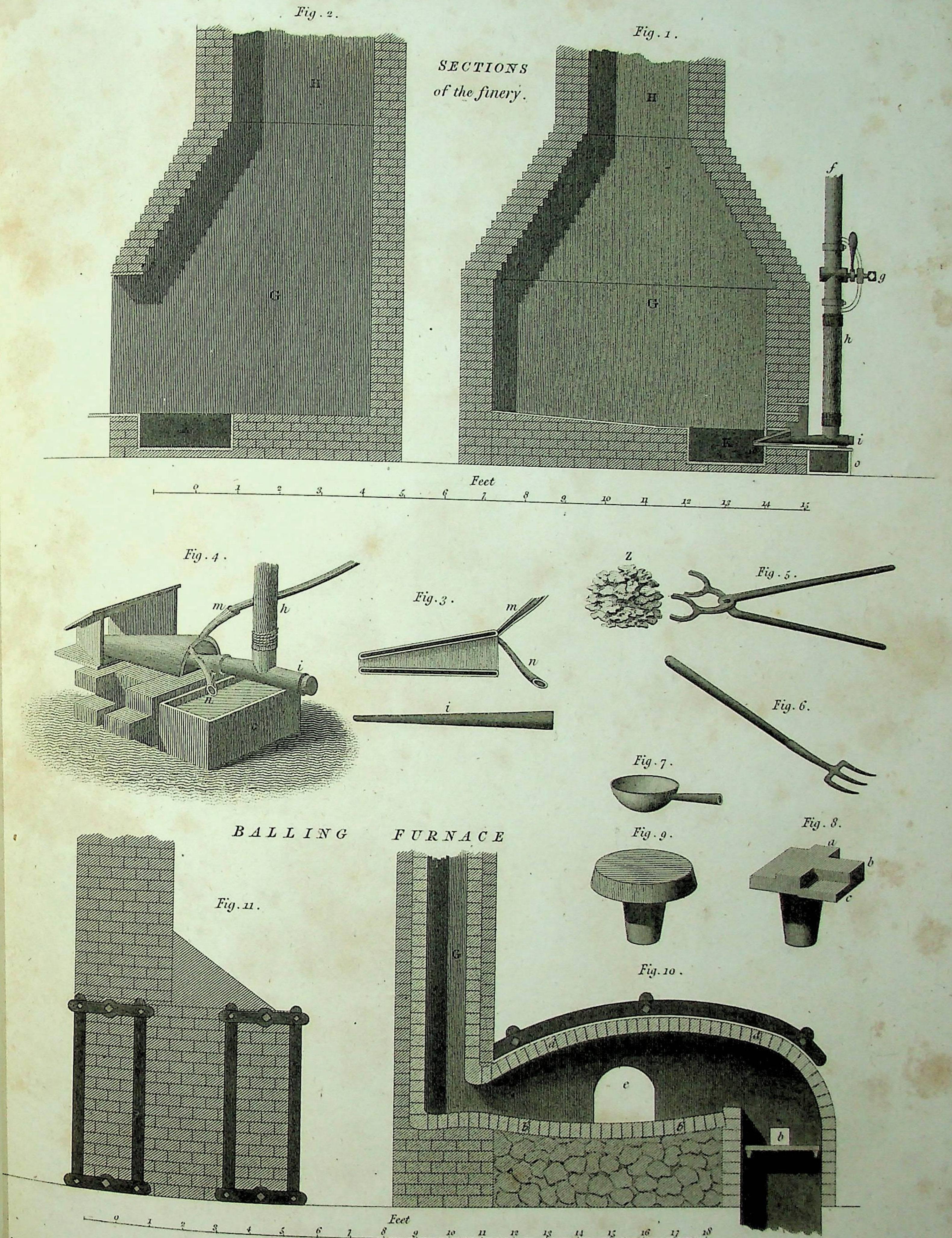
Elevation. Fig. 2.



...rey Jun. del.

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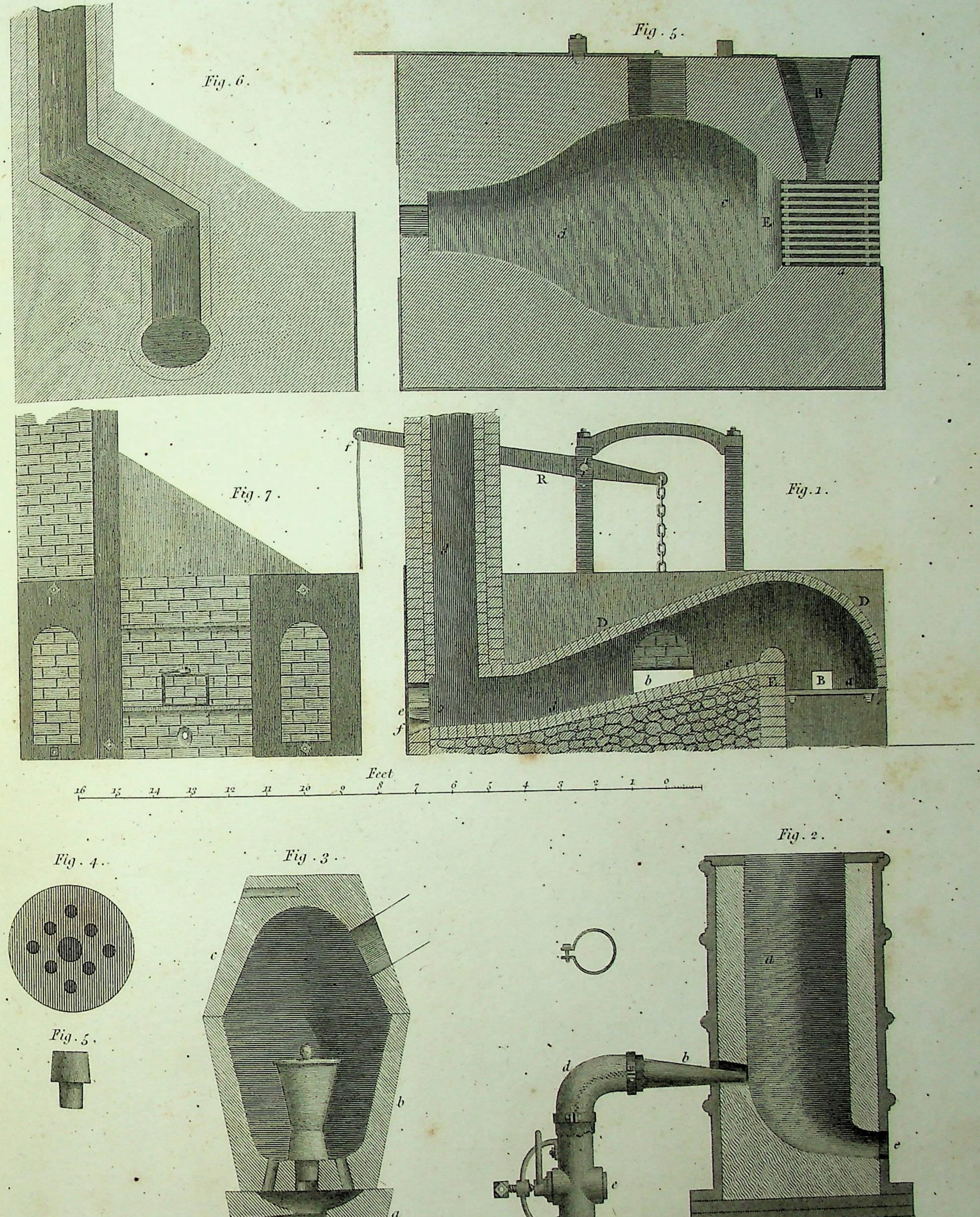
delin.

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FURNACE.

PLATE III & IV.



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Engraved by Wilson Lowry.

IRON MANUFACTURE.

Mr. Smeatons Design for the Machinery of the Hammer at Kilnhurst Forge.

Fig. 1. *Elevation in Front.*

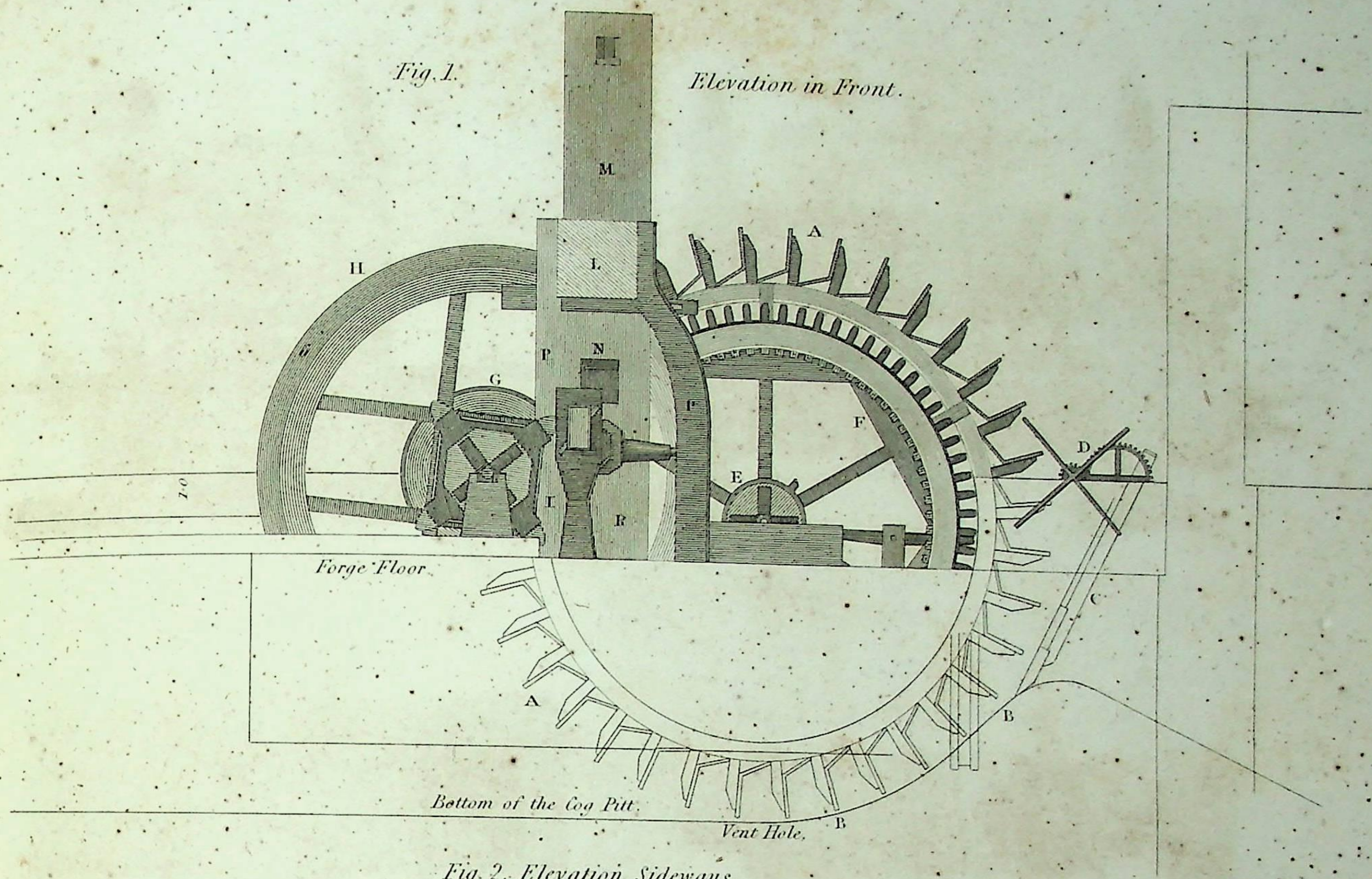
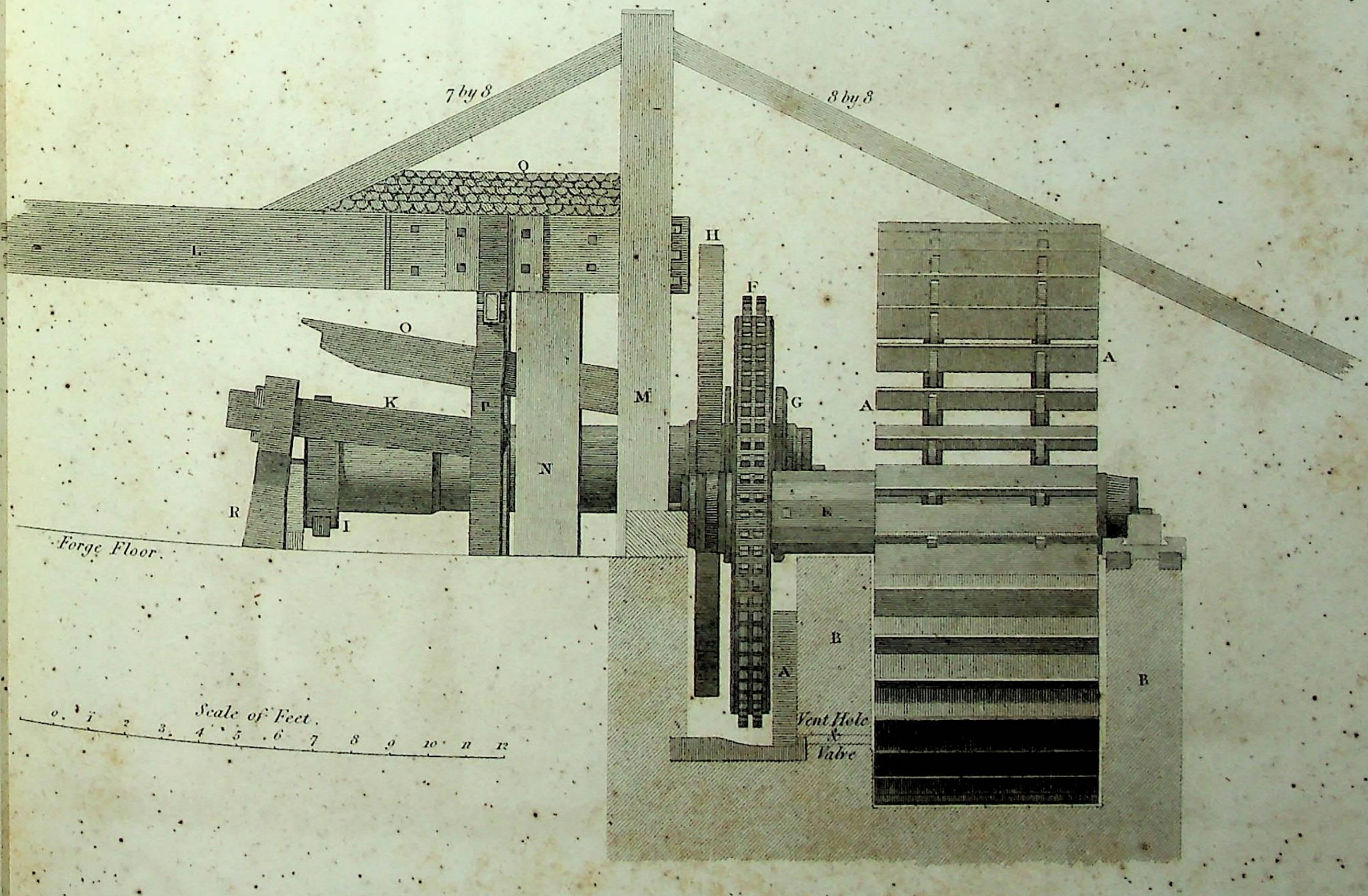


Fig. 2. Elevation Sideways.



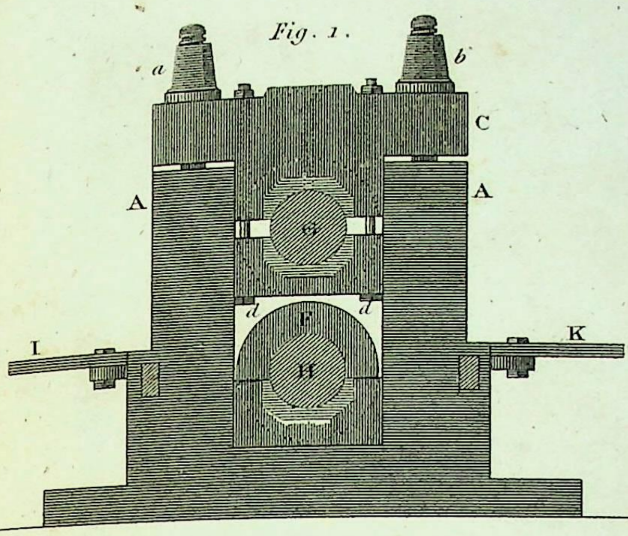
Publi...

Engraved by W. Lowry.

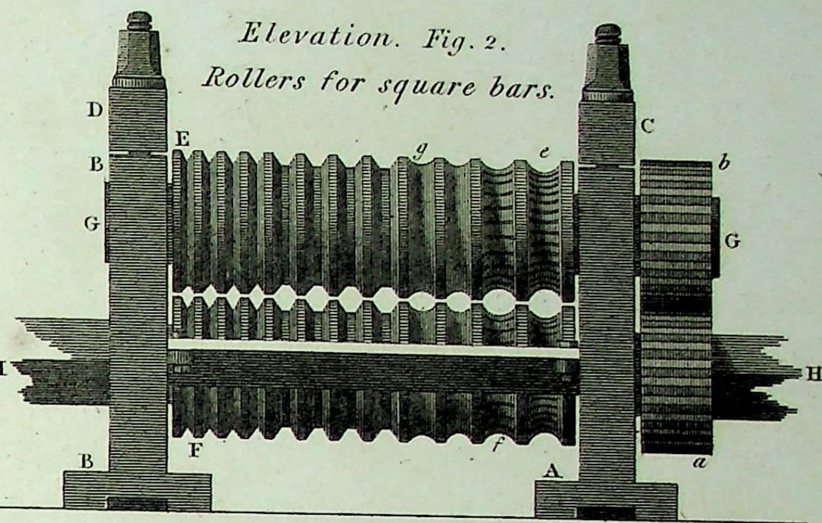
PLATE V.

ROLLERS *for making* BAR IRON.

Fig. 1.



Elevation. Fig. 2.
Rollers for square bars.





Plan Fig. 3.

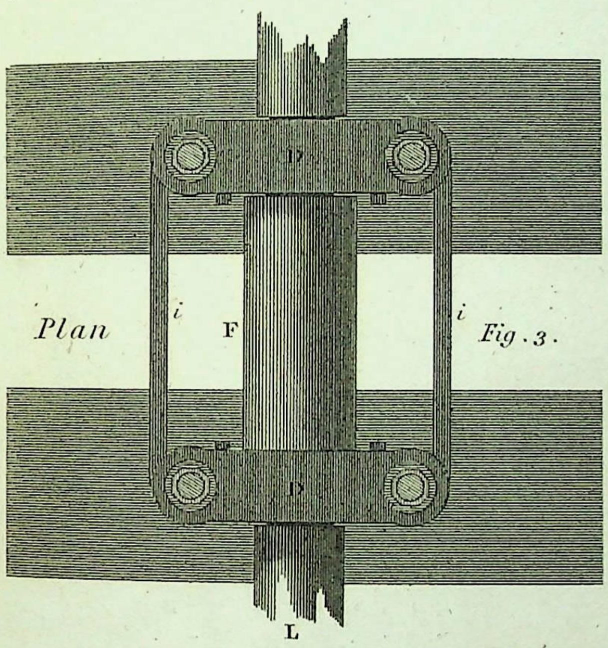
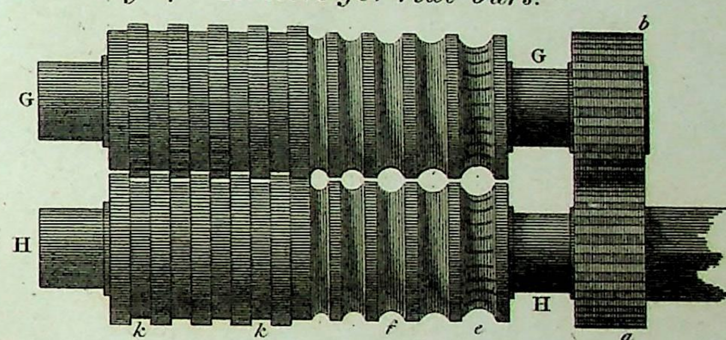


Fig. 4. Rollers for flat bars.



Scale of Feet.

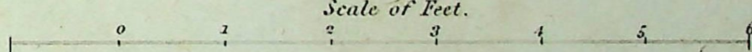


Plate Roller.

Fig. 5.

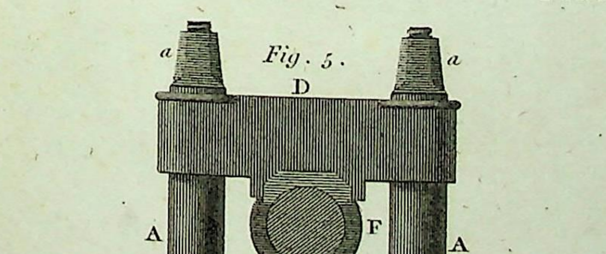
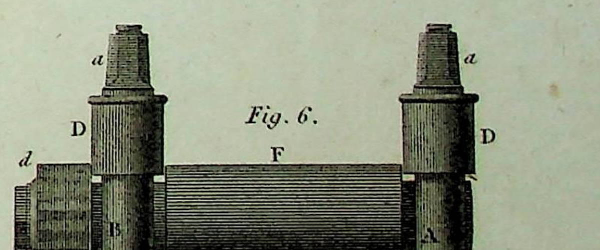


Fig. 6.



delin.

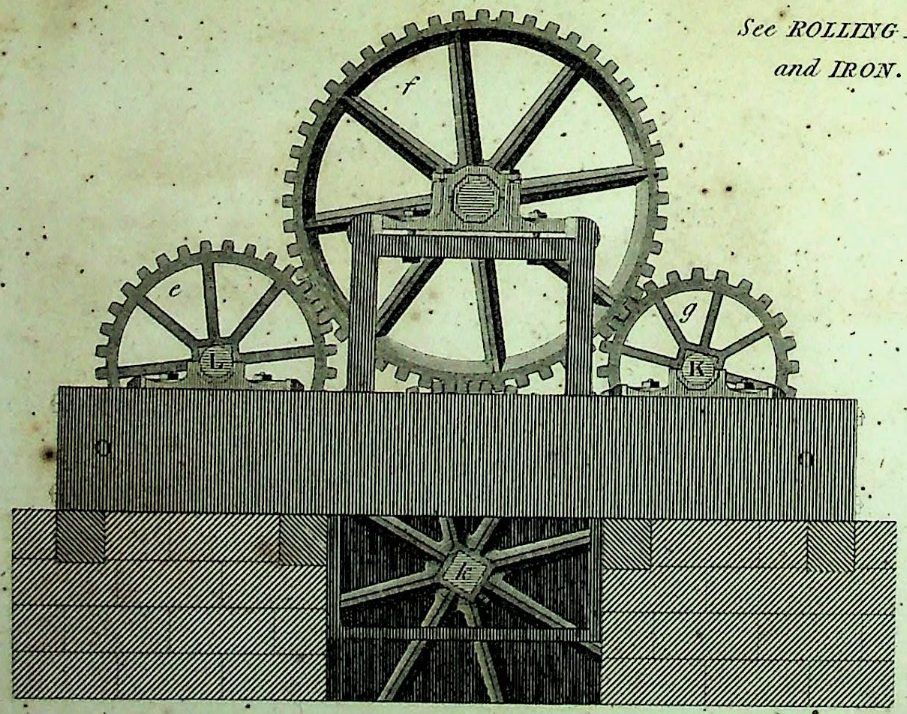
Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

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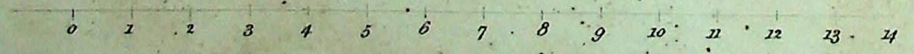
Rolling and Slitting Mill, at Mess.rs Walker's Iron Works, Rotherham.

Elevation. Fig. 2.

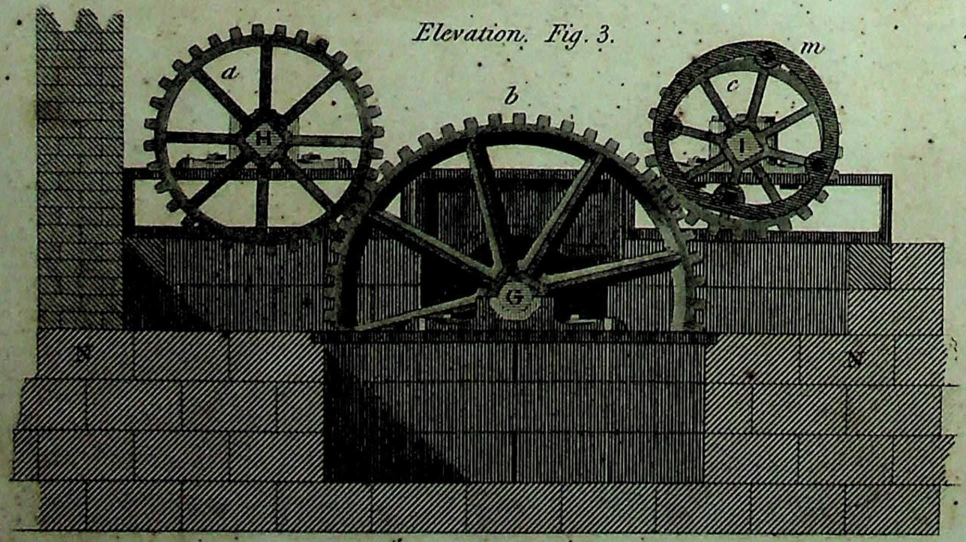
See ROLLING MILL and IRON.



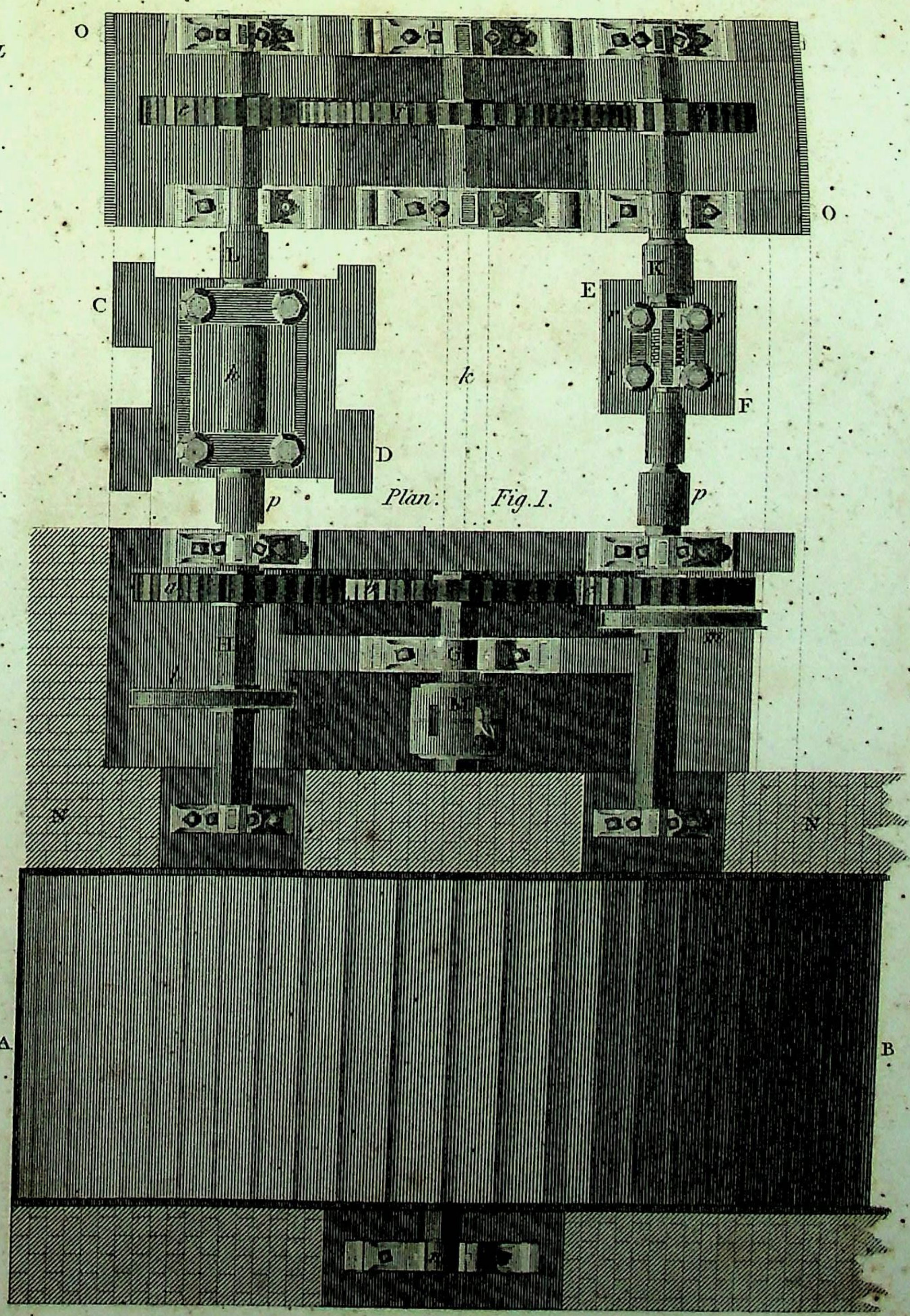
Scale of Feet.



Elevation. Fig. 3.



Plan. Fig. 1.



J. Farey del.

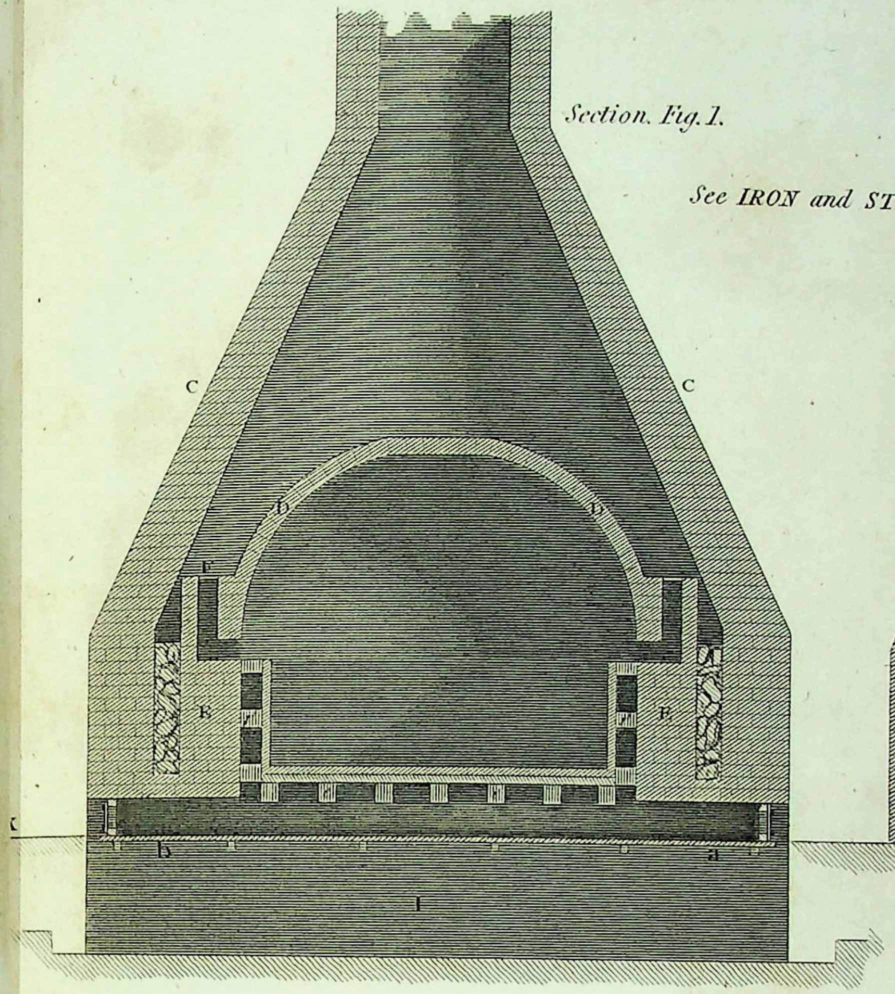
Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row, London.

Lowry sculp.

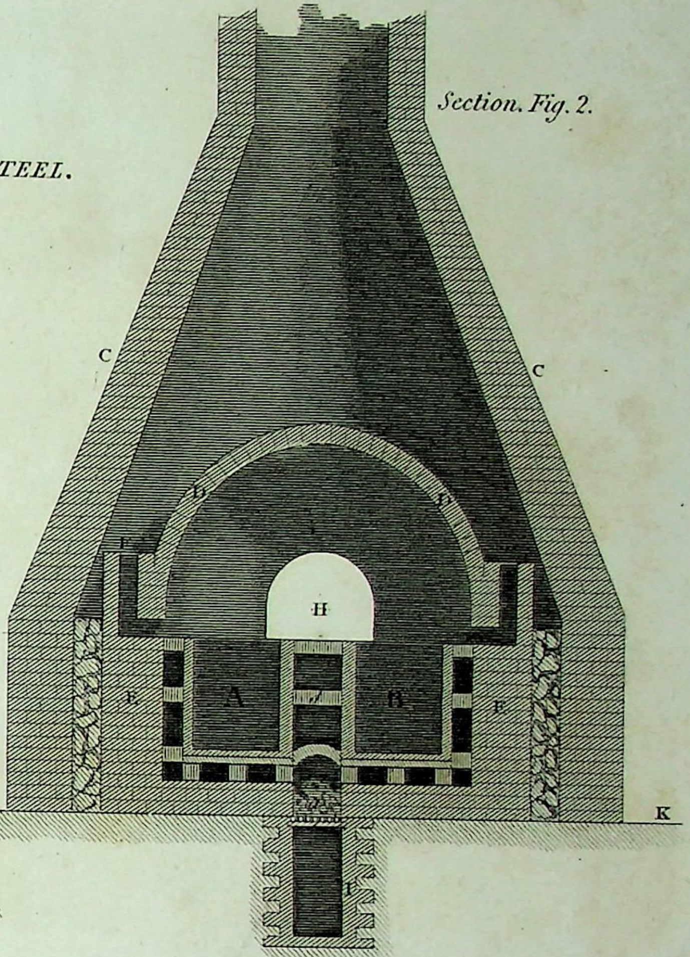
STEEL CONVERTING FURNACE.

See IRON and STEEL.

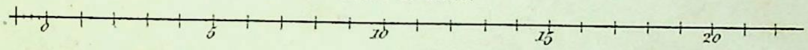
Section. Fig. 1.



Section. Fig. 2.



Scale of Feet.



Plan. Fig. 3.

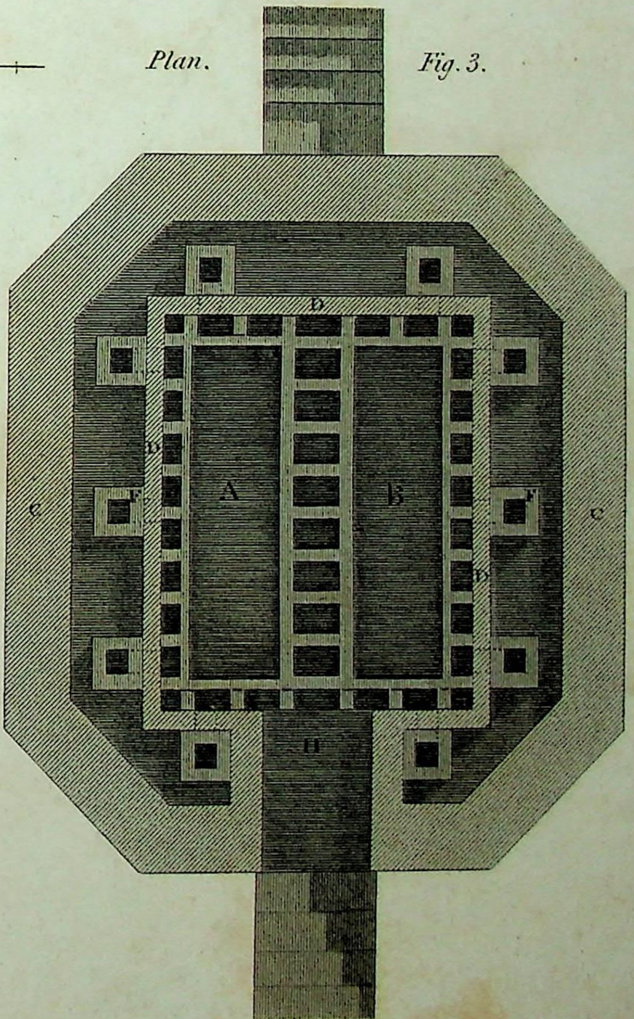


Fig. 4.

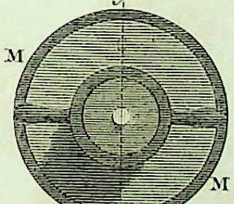


Fig. 7.

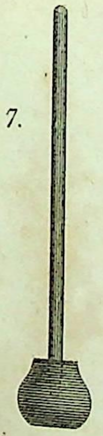
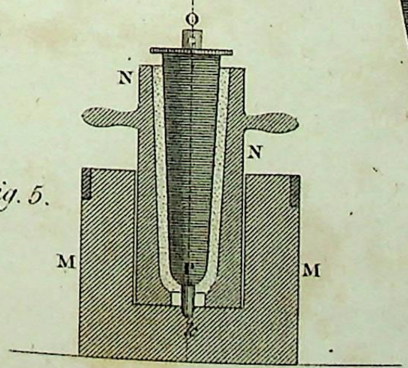


Fig. 6.



Mould for making Crucibles.

Fig. 5.

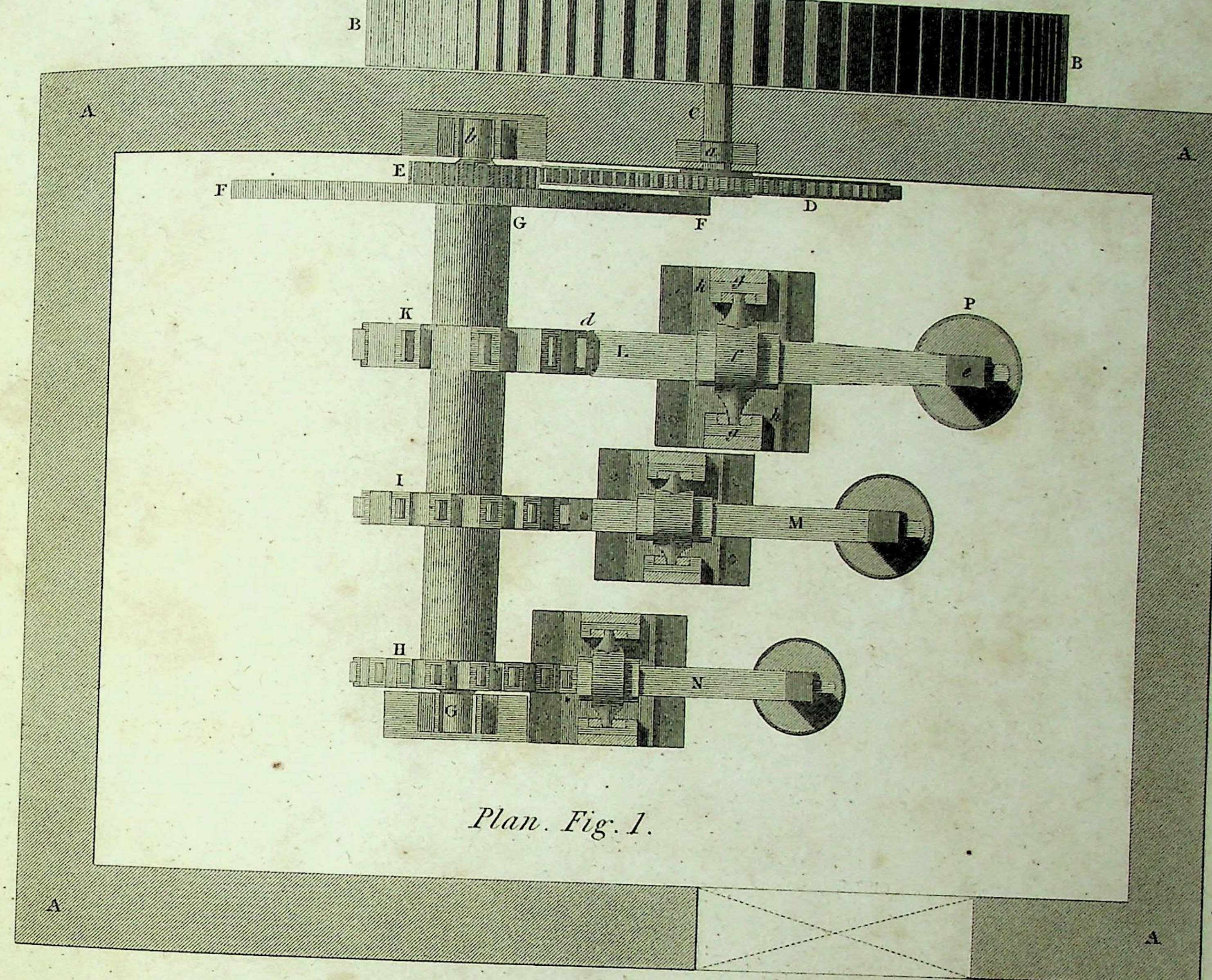


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IRON MANUFACTURE.

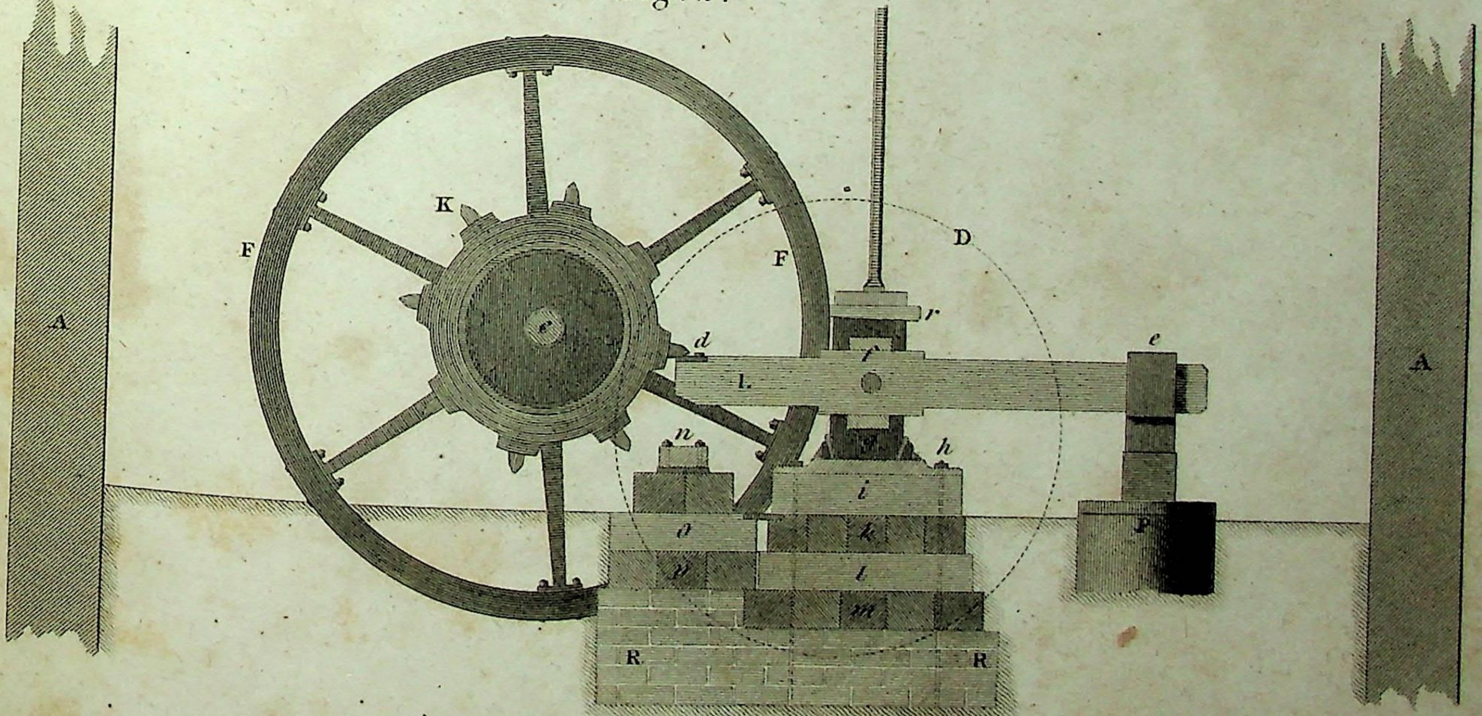
MILL FOR TILTING STEEL,

by Mr. Smeaton.



Plan. Fig. 1.

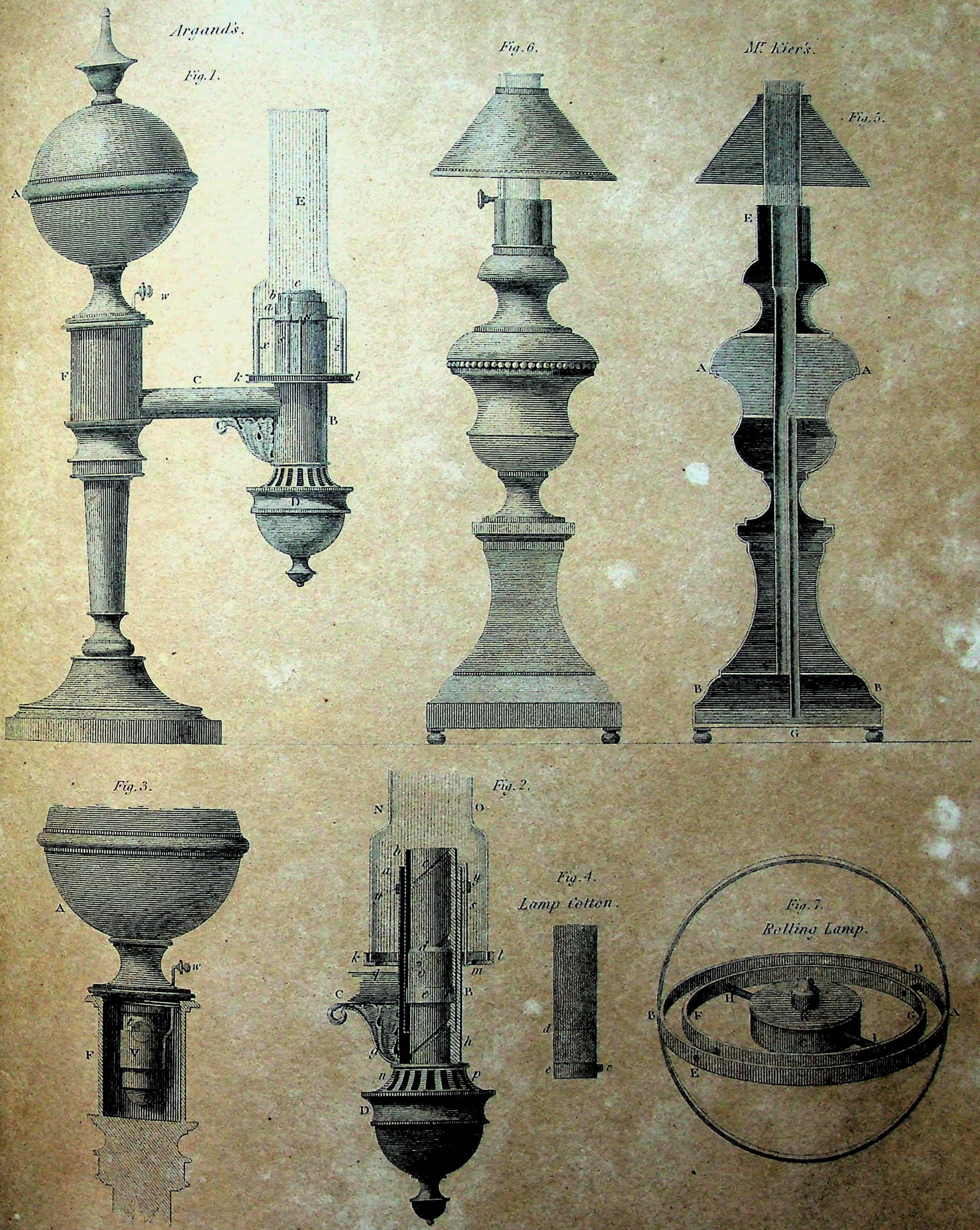
Elevation. Fig. 2.



delin.

Published ... by Longman, Hurst Rees, Orme & Brown, Paternoster Row.

Engraved by W. Lowry



Published as … Paternoster Row London.

Hydro=Pneumatic Lamp by R. W. King.

Fig. 1.

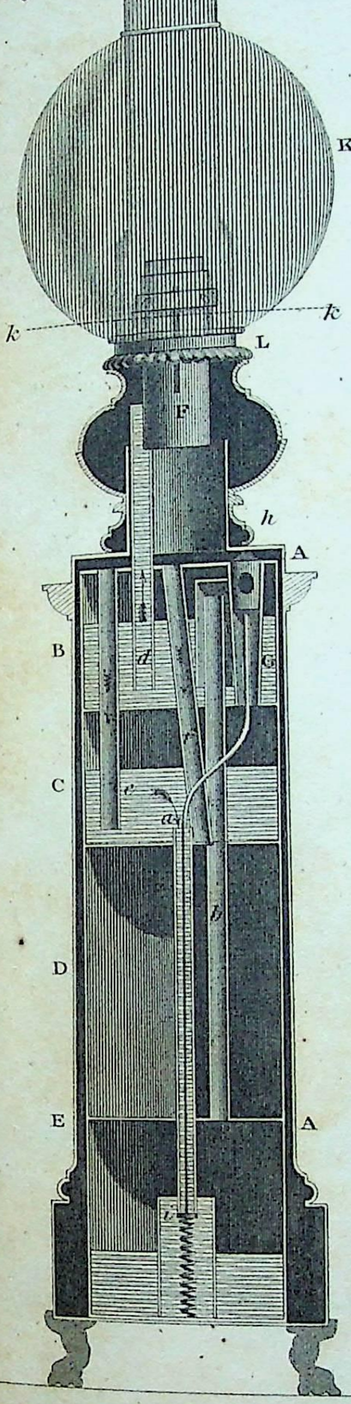


Fig. 2.

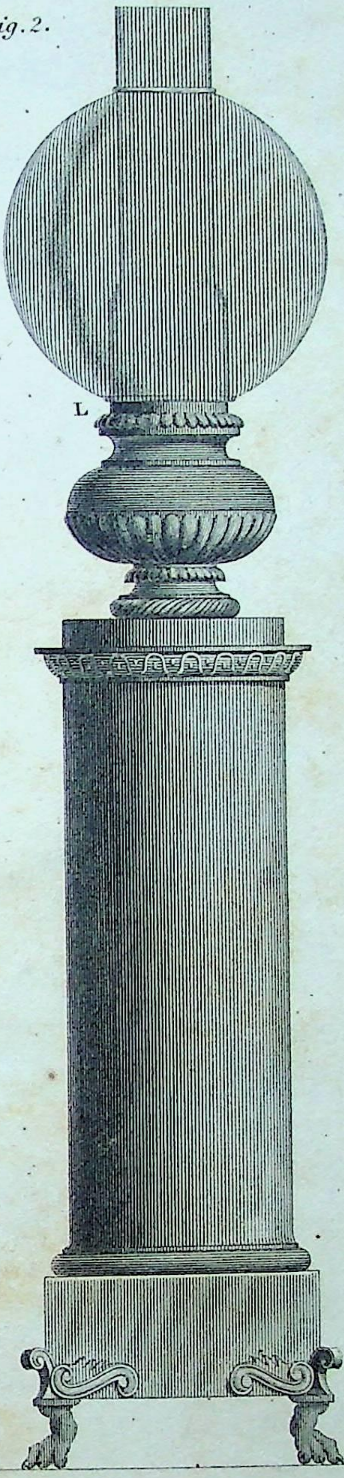


Fig. 4.



Fig. 3.

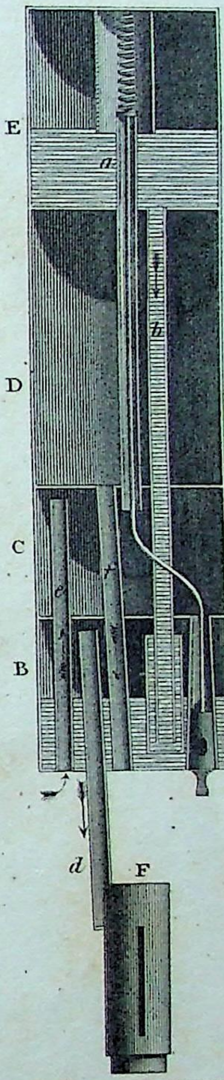
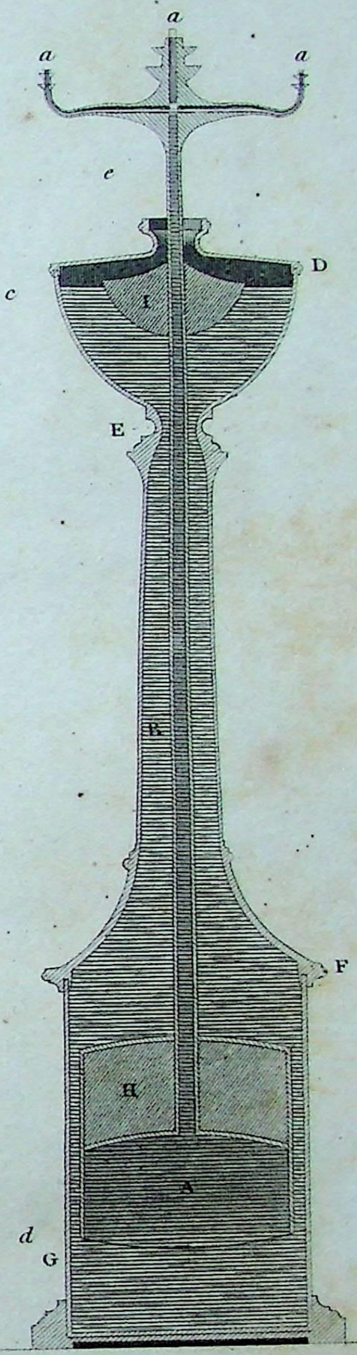


Fig. 5.

Mr. Barton's Lamp.



Porter's Automaton Lamp.

Fig. 6.

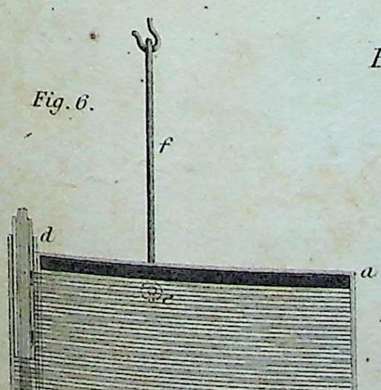


Fig. 7.

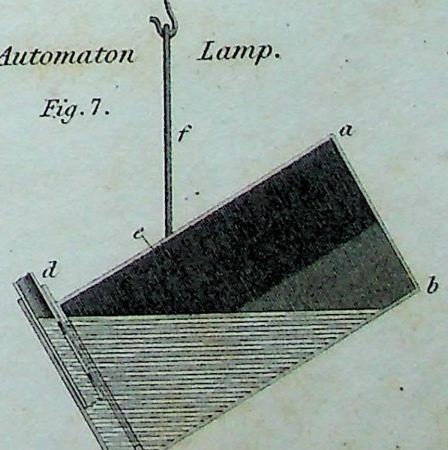
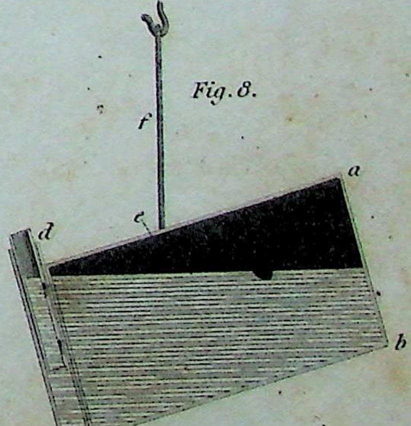


Fig. 8.

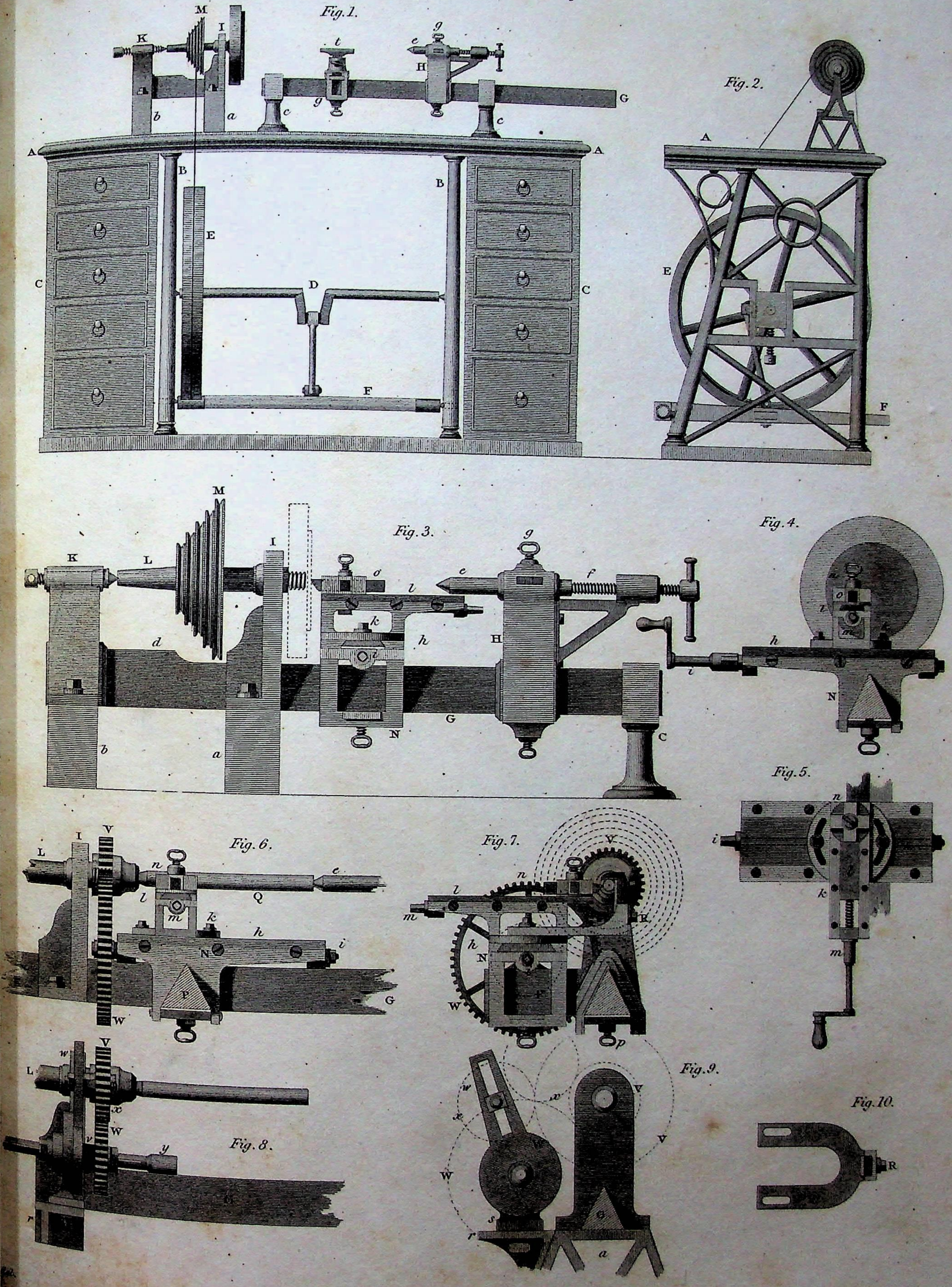


del. Lowry sculp.

Published as the Act directs, 1817, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row.

LATHE.

by Mr. H. Maudslay.

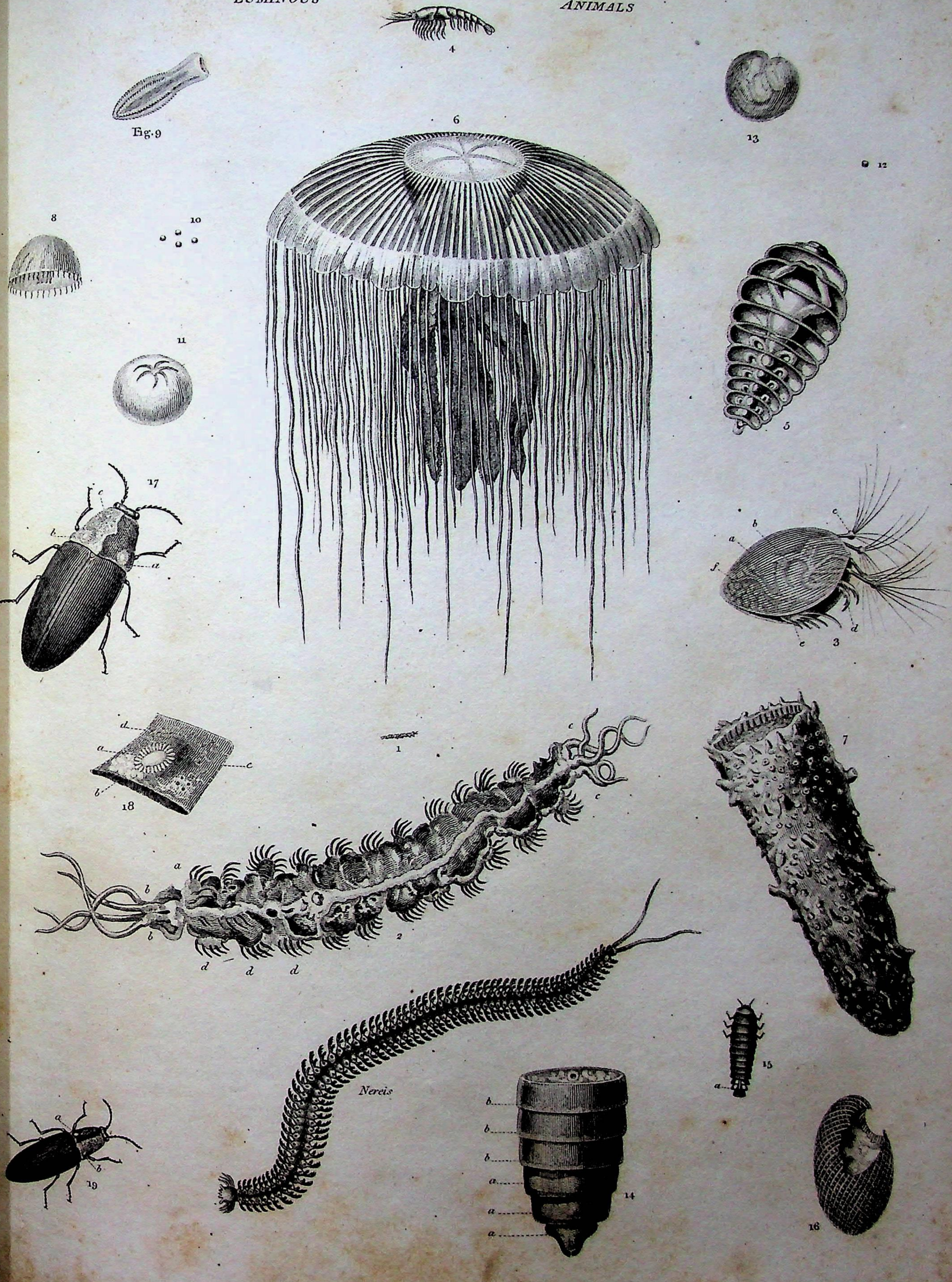


Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London.

Lowry sculp.

LIGHT.

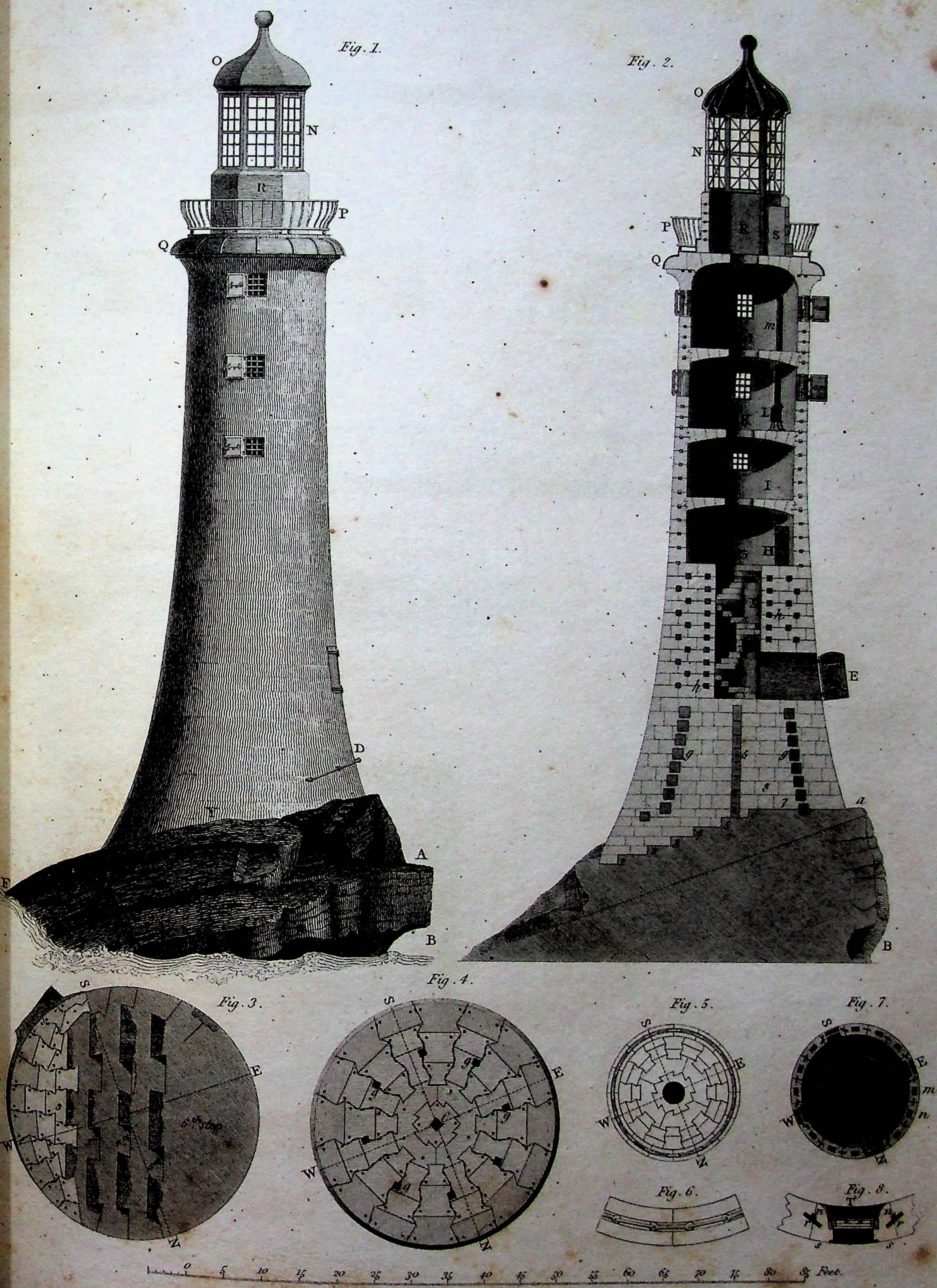
LUMINOUS *ANIMALS*



Published as the Act directs March 1.1820, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

LIGHT HOUSE.

LIGHT HOUSE on the Eddystone Rock.



Farey, delin.

Published as the Act directs, 1819, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry, Sc.

MAGNETISM.

COMPASS.

Fig. 1.

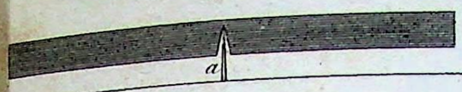


Fig. 2.

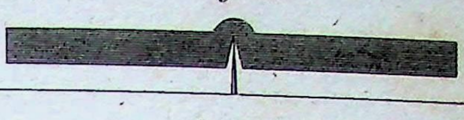


Fig. 3.

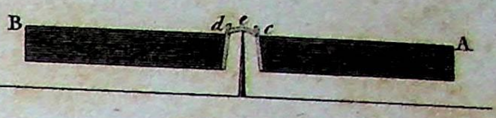


Fig. 5.

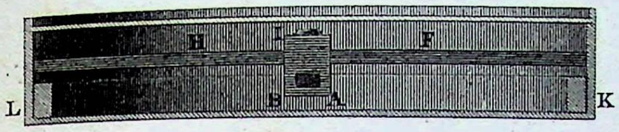


Fig. 4.

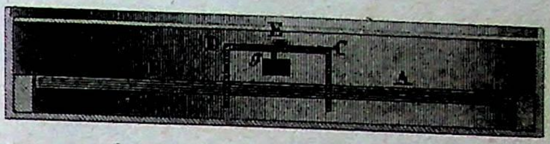


Fig. 8.



Fig. 9.



Fig. 7.

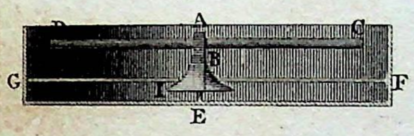


Fig. 6.

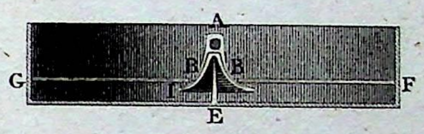


Fig. 11.

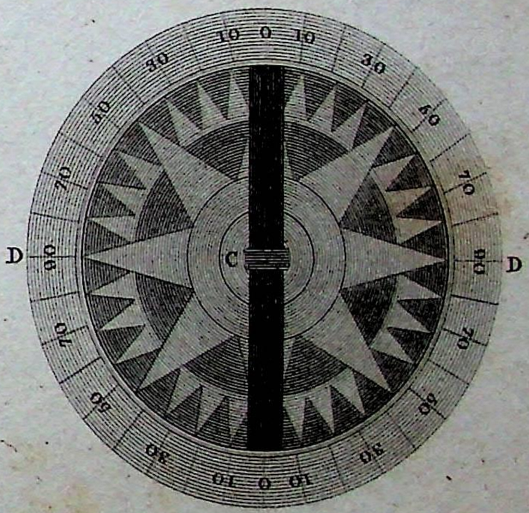


Fig. 10.

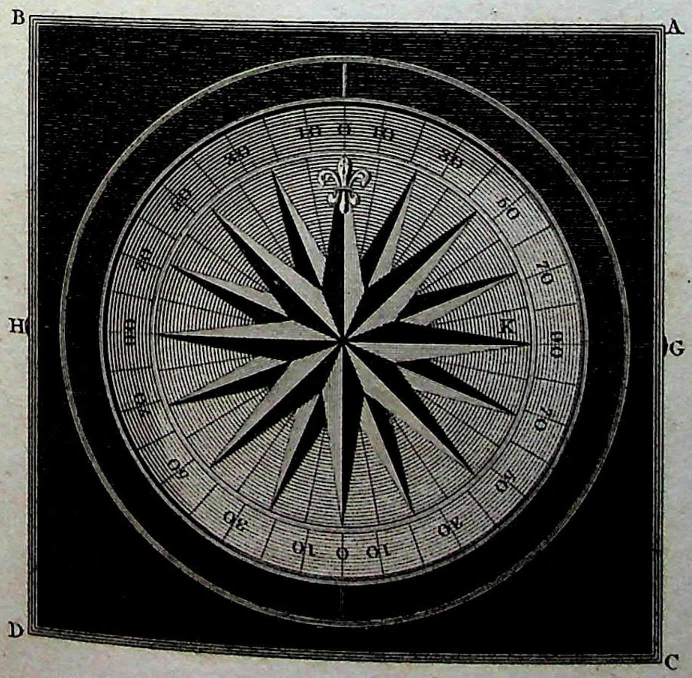
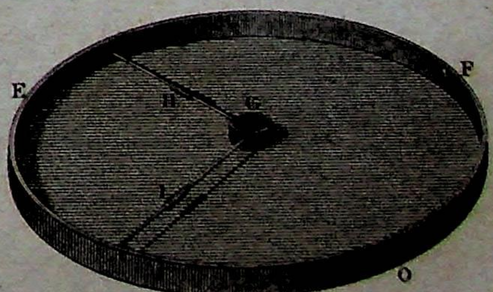


Fig. 12.



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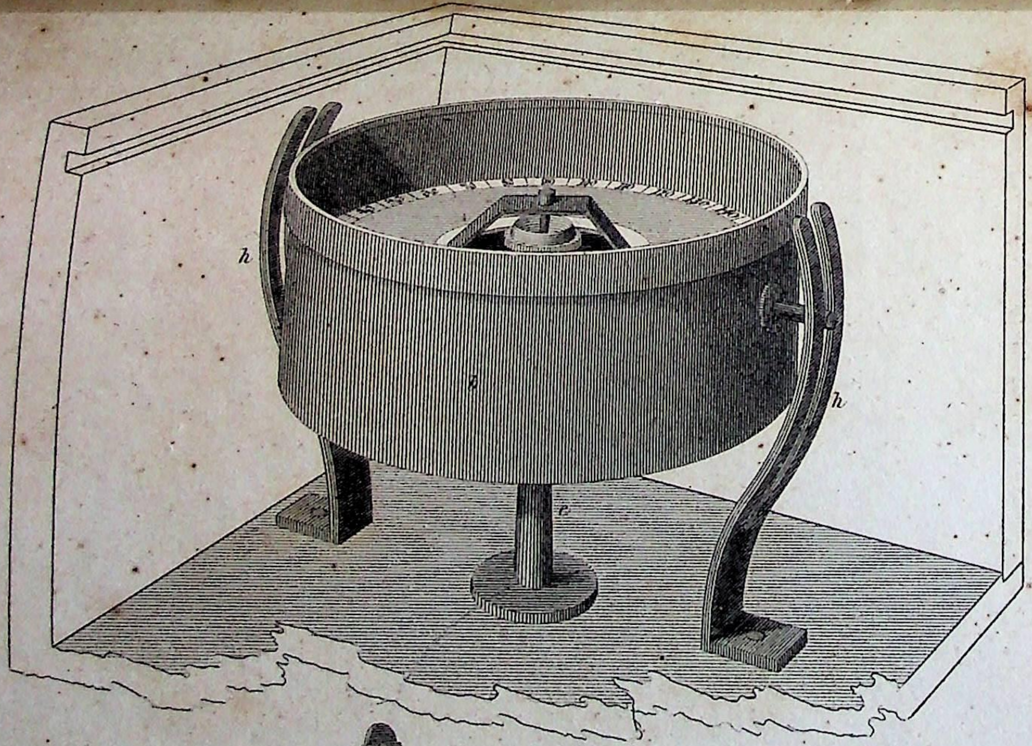


Fig. 13.

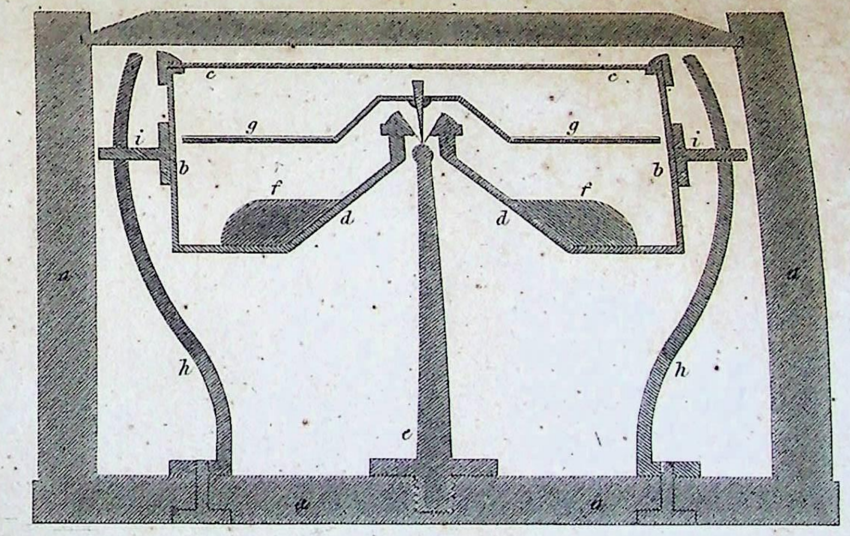


Fig. 15.

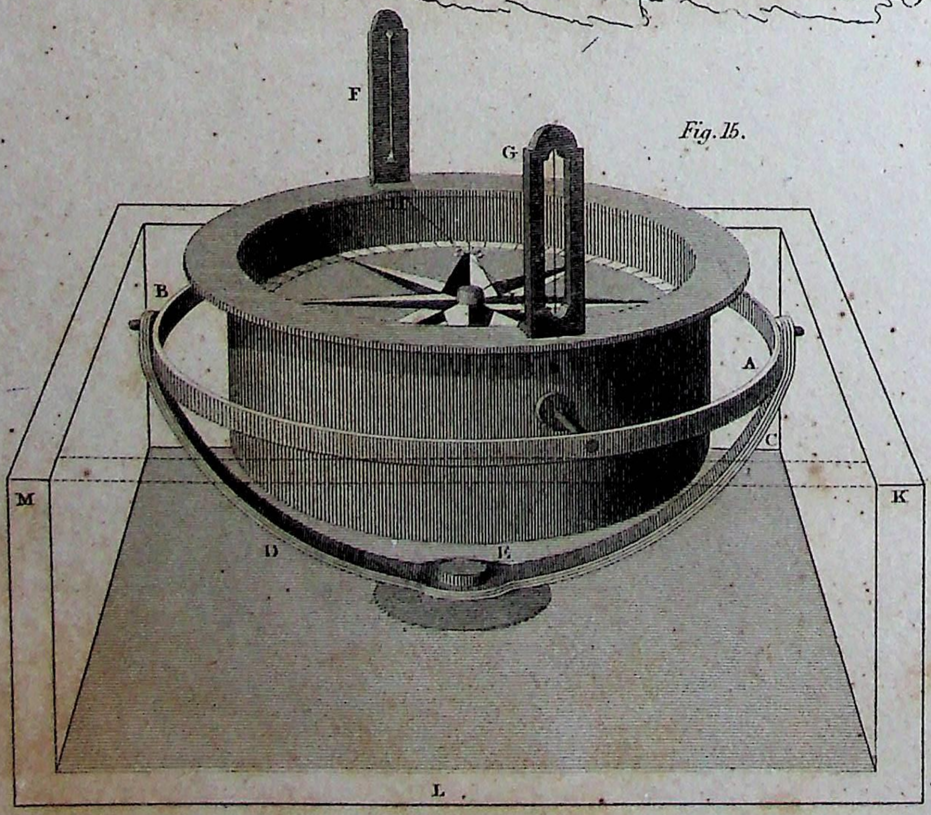
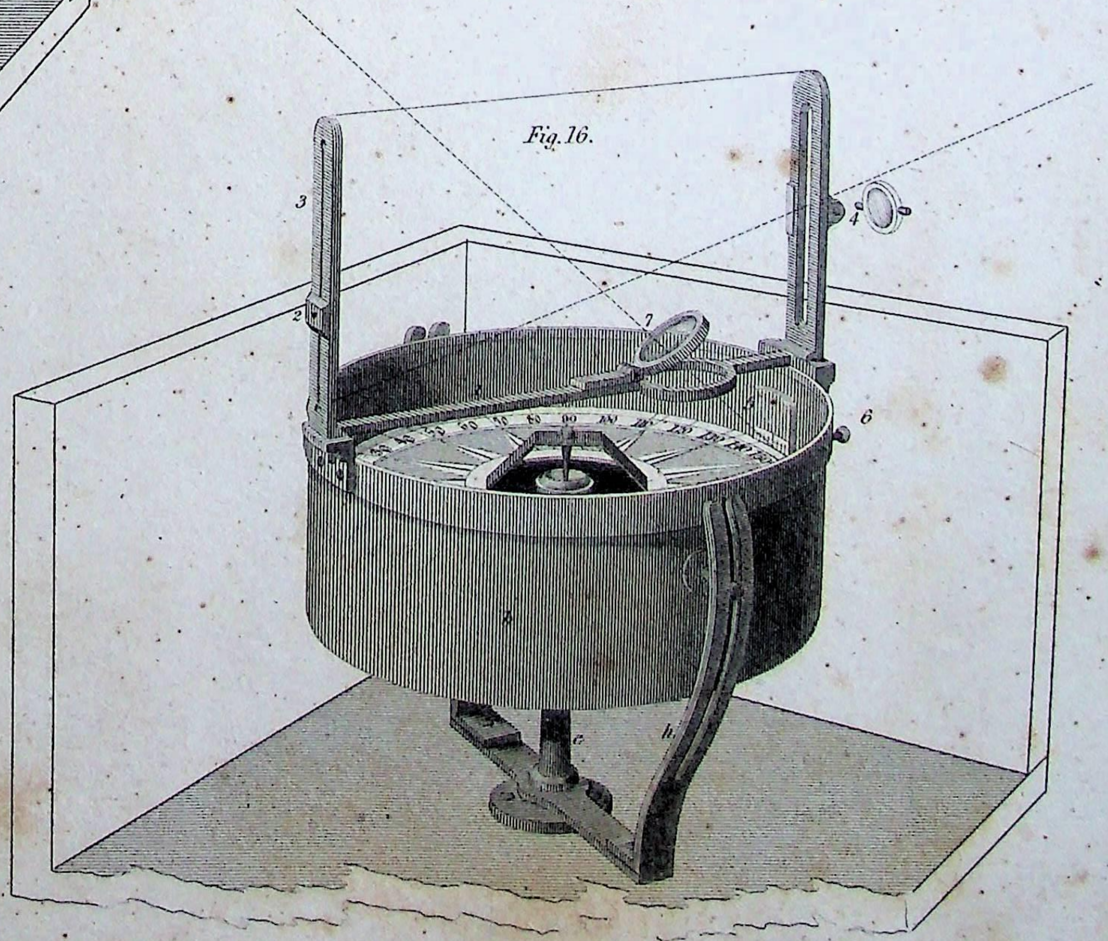


Fig. 16.



J. Farey Jun. del. Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row, London. Lowry sculp.

Fig. 17.

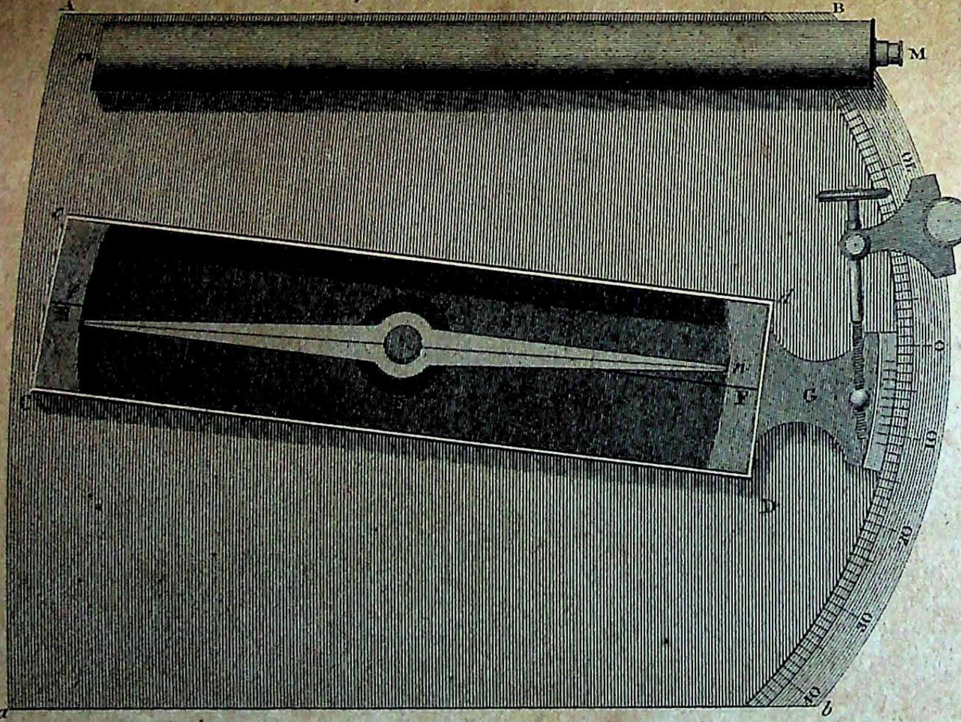


Fig. 19.

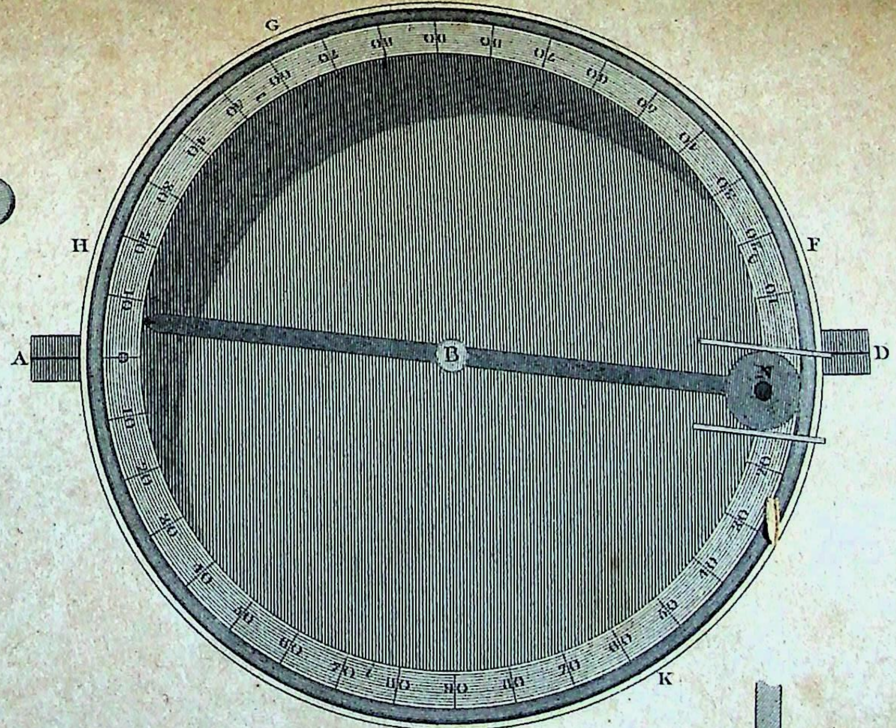


Fig. 20.

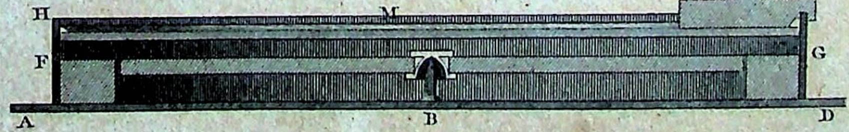


Fig. 18.

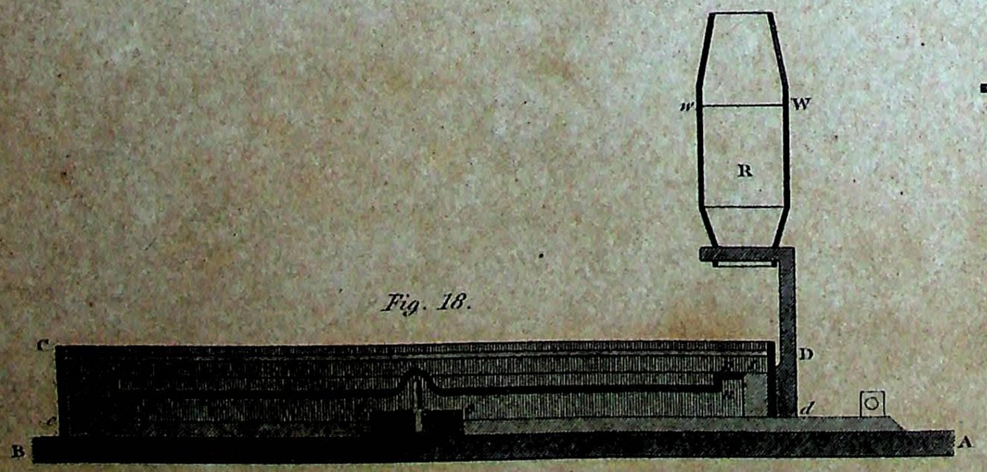


Fig. 22.

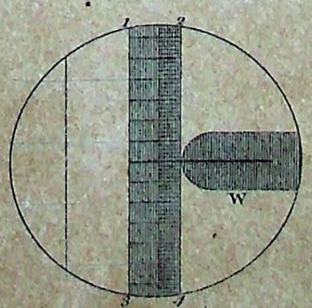


Fig. 21.



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Engraved by Wilson Lowry.

MAGNETISM.

DIPPING.

Fig. 22.

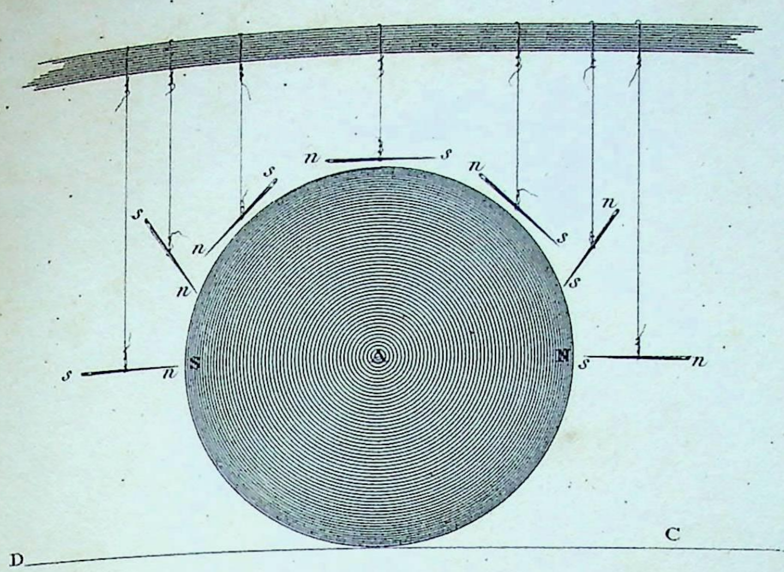
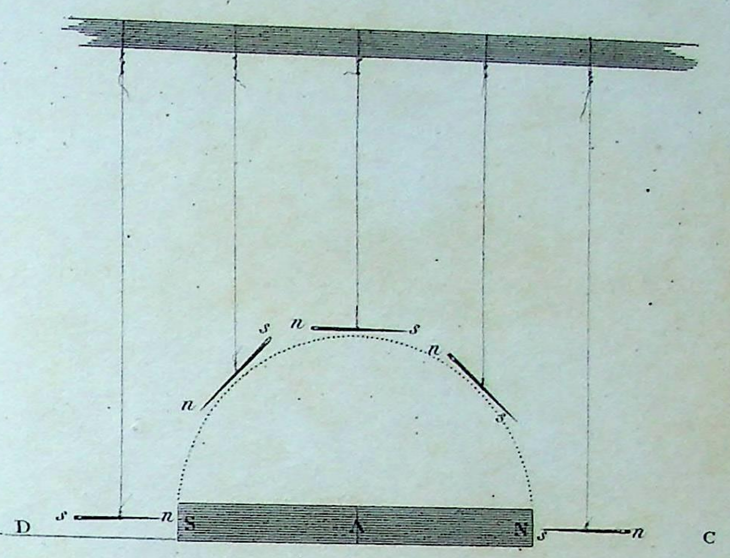


Fig. 23.



(for Fig. 27, see the next Plate)

Fig. 29.

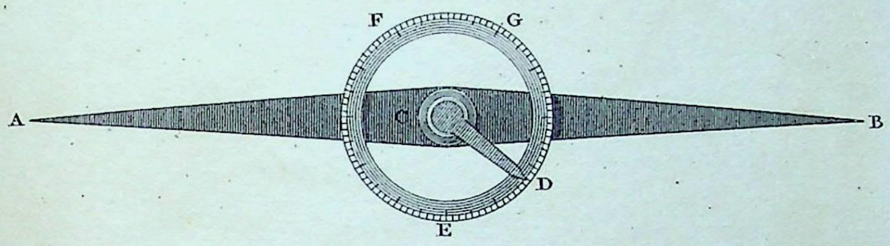


Fig. 24.

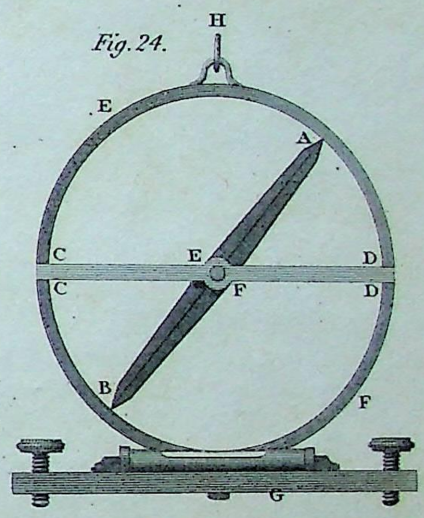


Fig. 3.

Dipping Needle by Dr. Lorimer

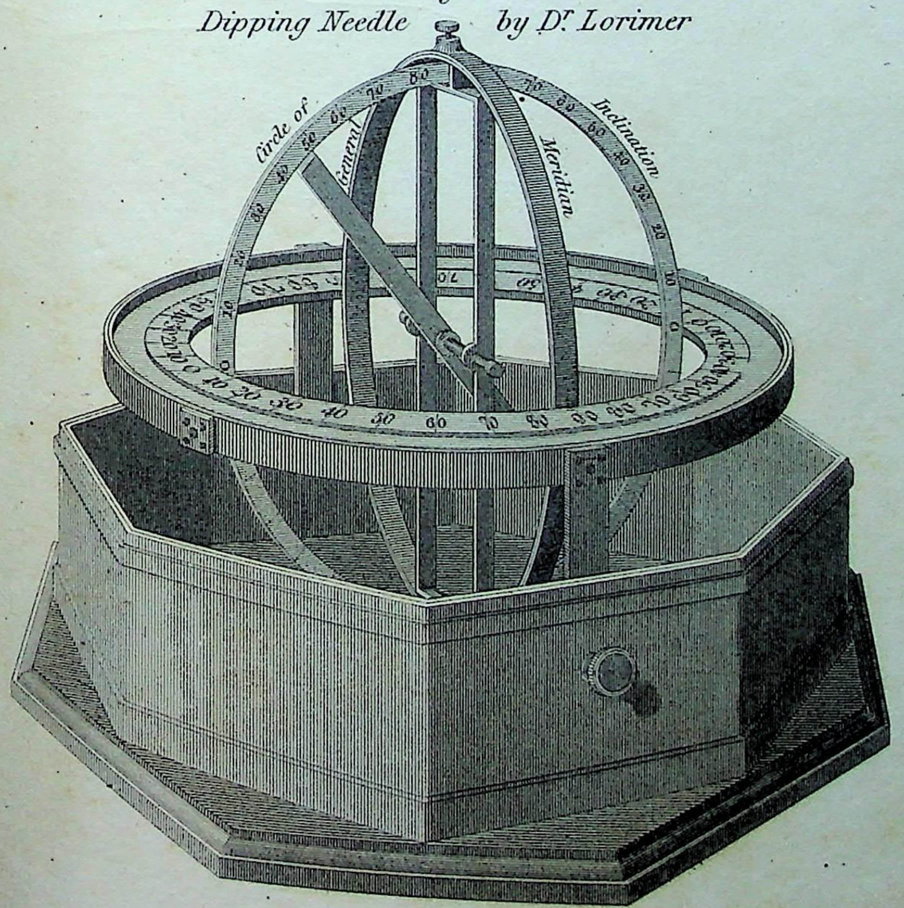


Fig. 25.

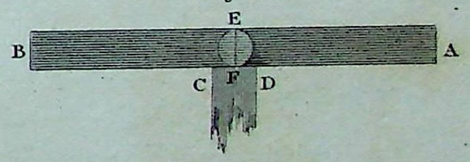


Fig. 26.

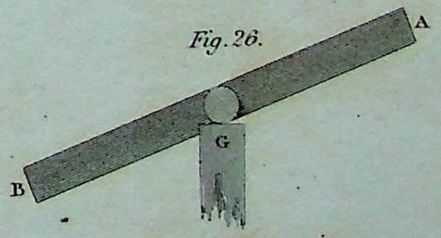
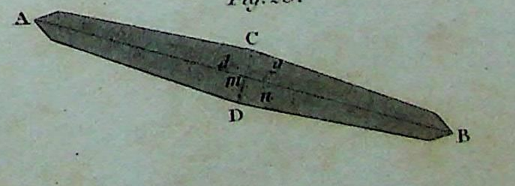
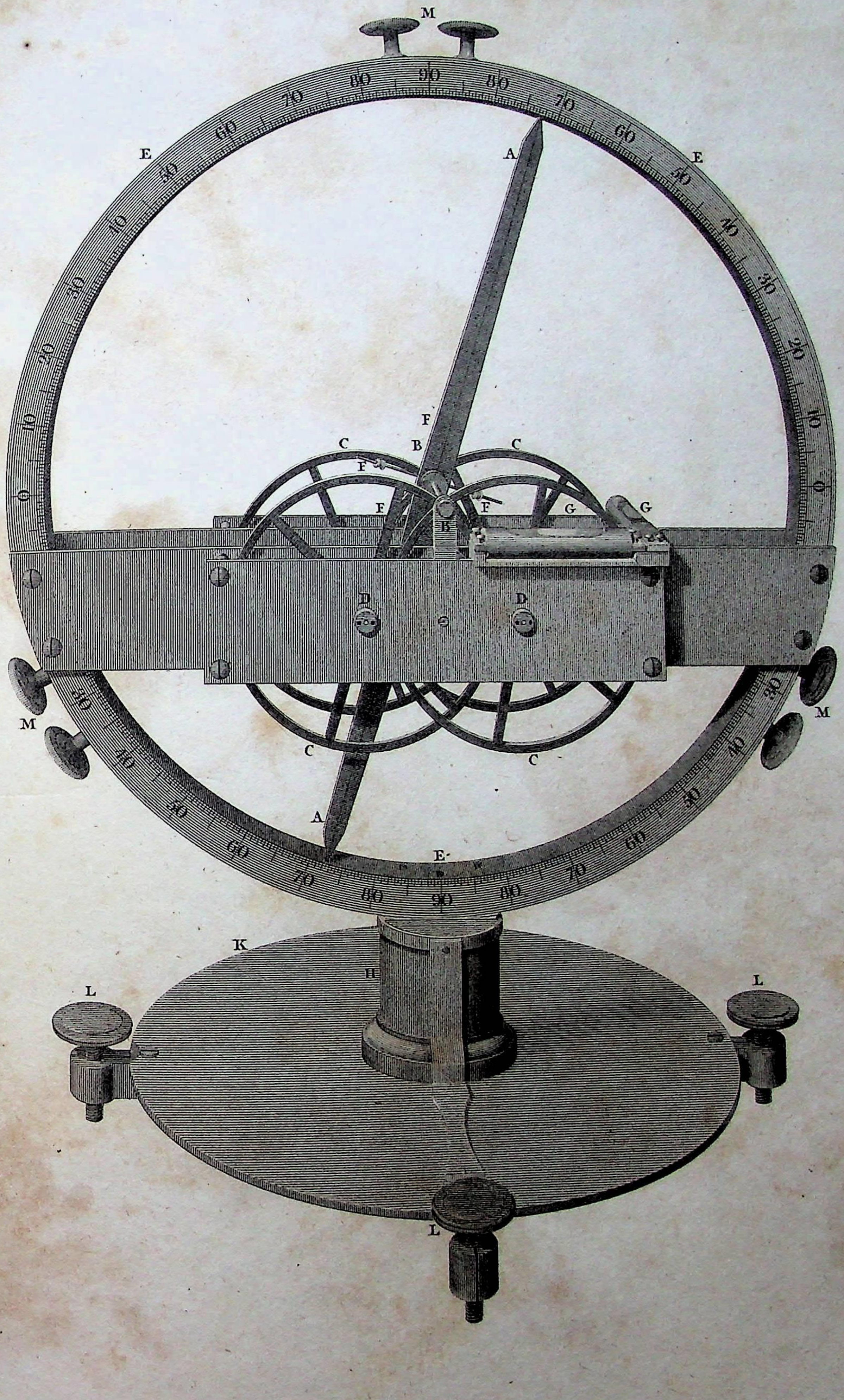


Fig. 28.



Lowry sculp.

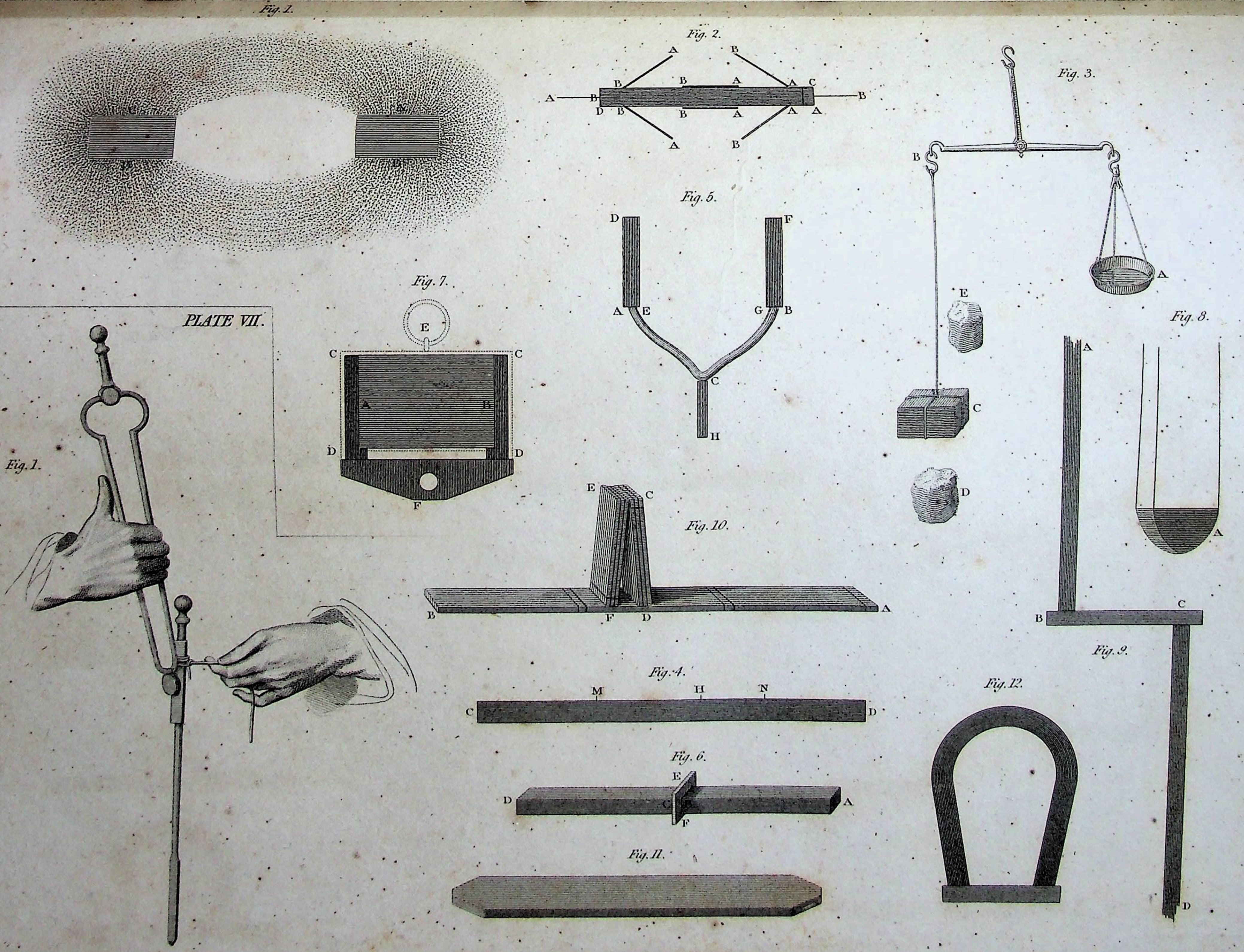
Dipping Needle made by Mr. Nairne for the Board of Longitude, on the Plan of the Revd. Mr. Mitchel.



Published as the Act directs, 1810, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

PLATE VII.

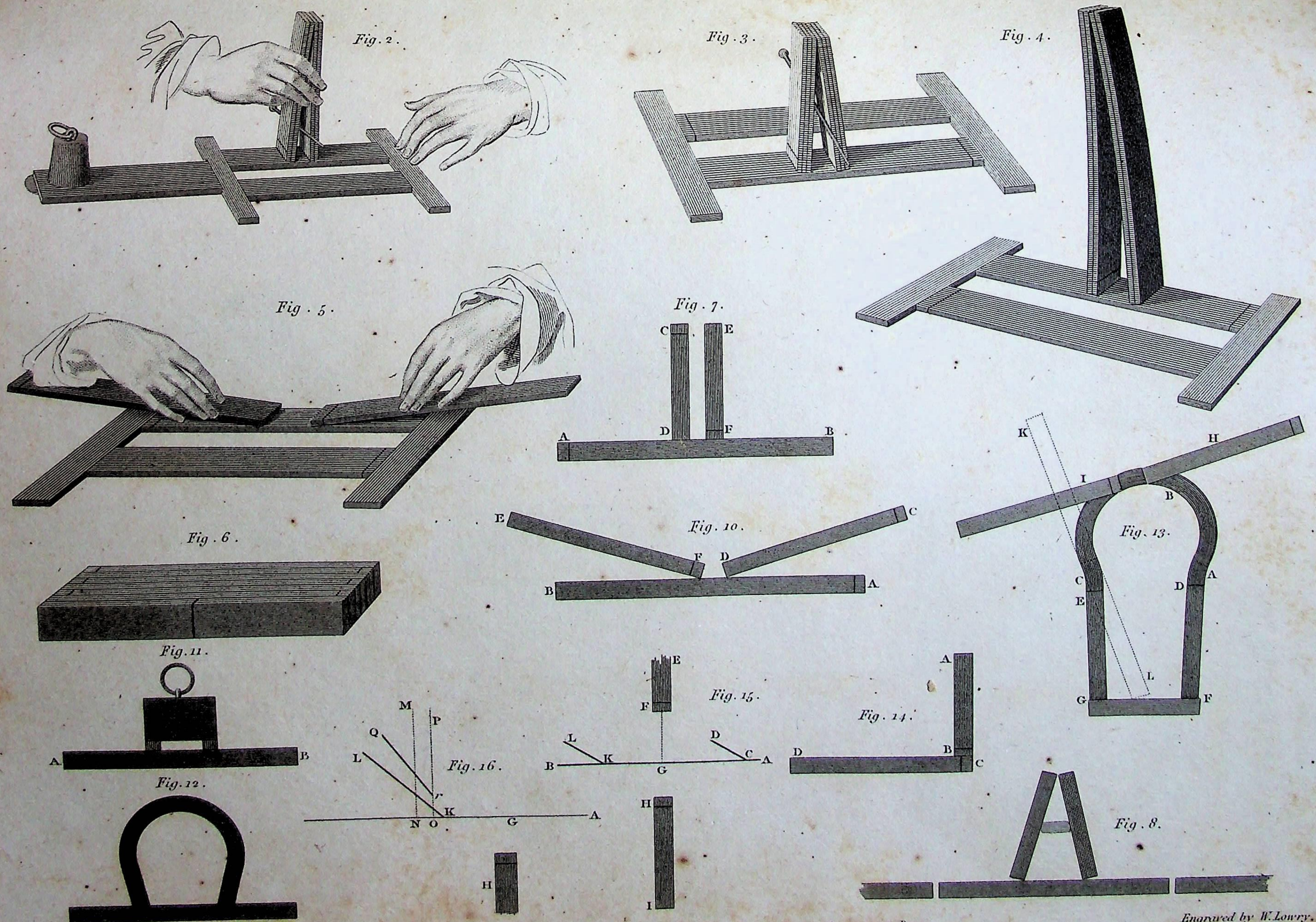


Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row, London.

Lowry sculp.

MAGNETISM.

MAGNET.



Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Engraved by W. Lowry.

Fig. 2.
Incertain.

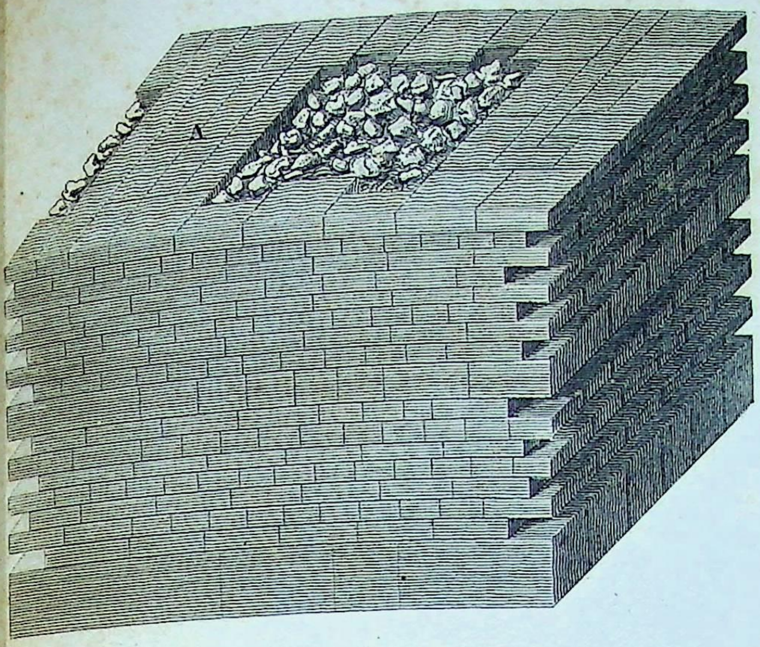


Fig. 1.
Reticulated.

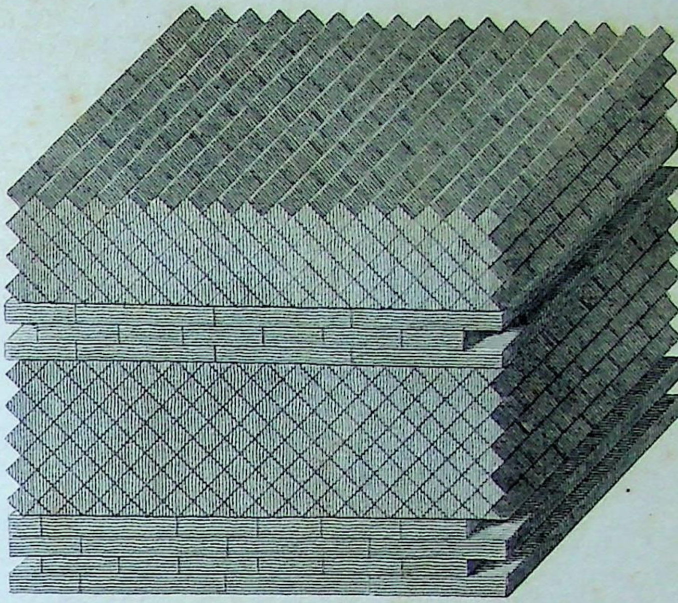


Fig. 4.
Pseudisodomum.

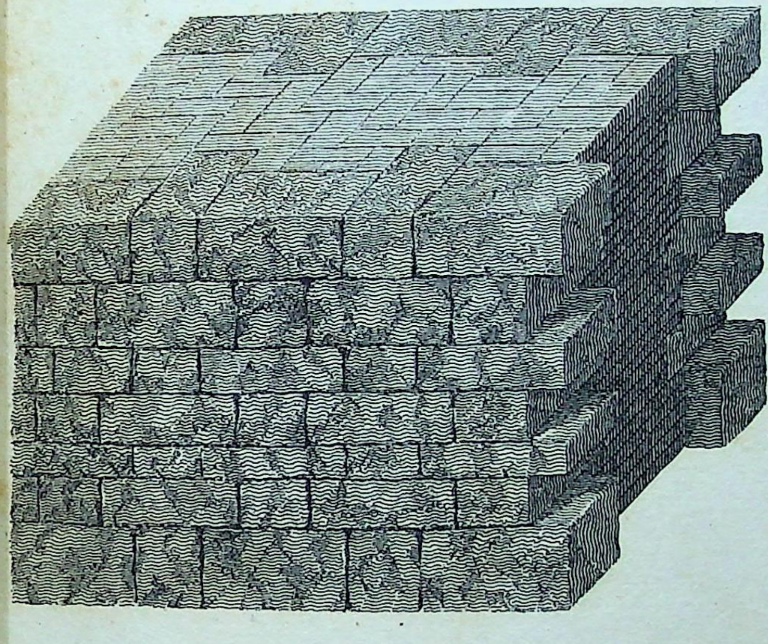


Fig. 3.
Isodomum.

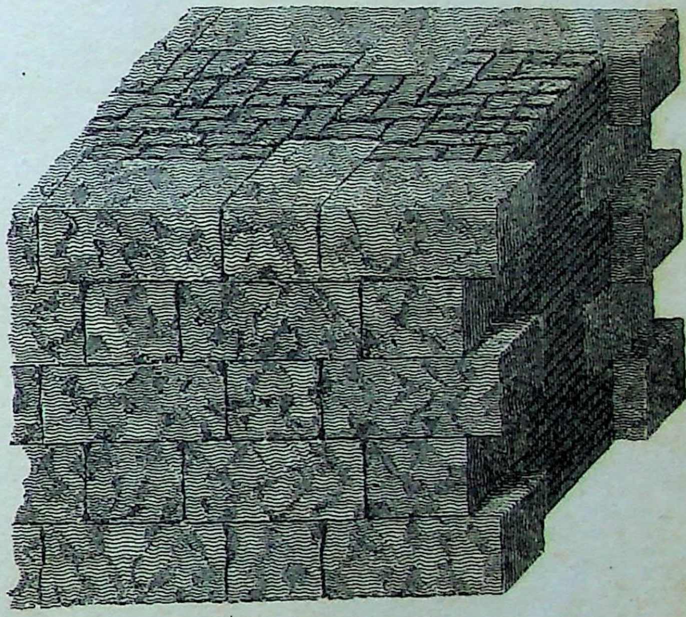


Fig. 6.
Greek Emplection.

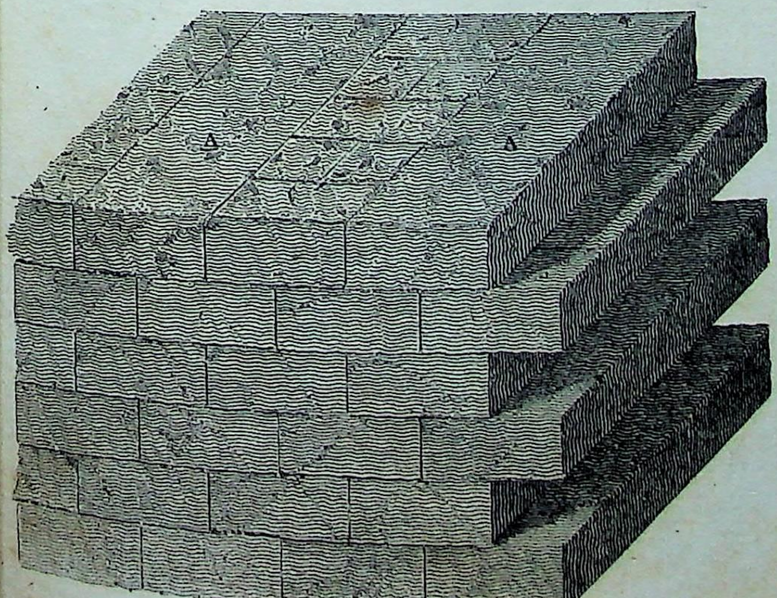
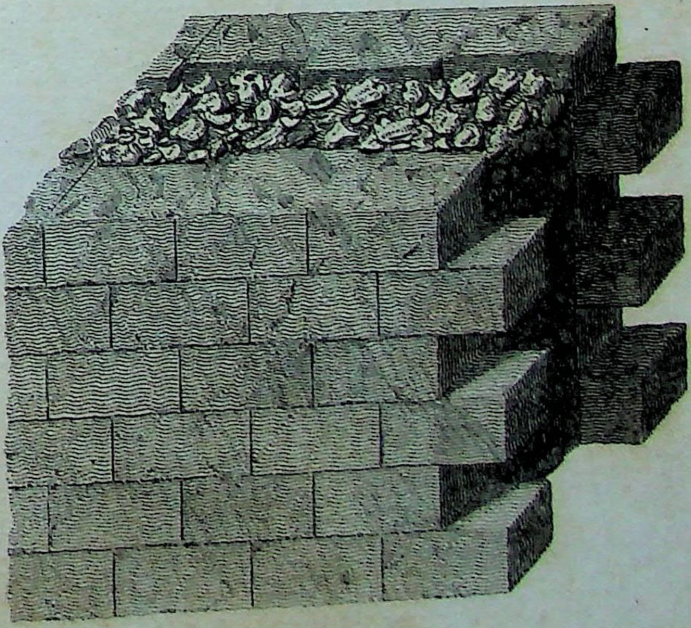


Fig. 5.
Roman Emplection.



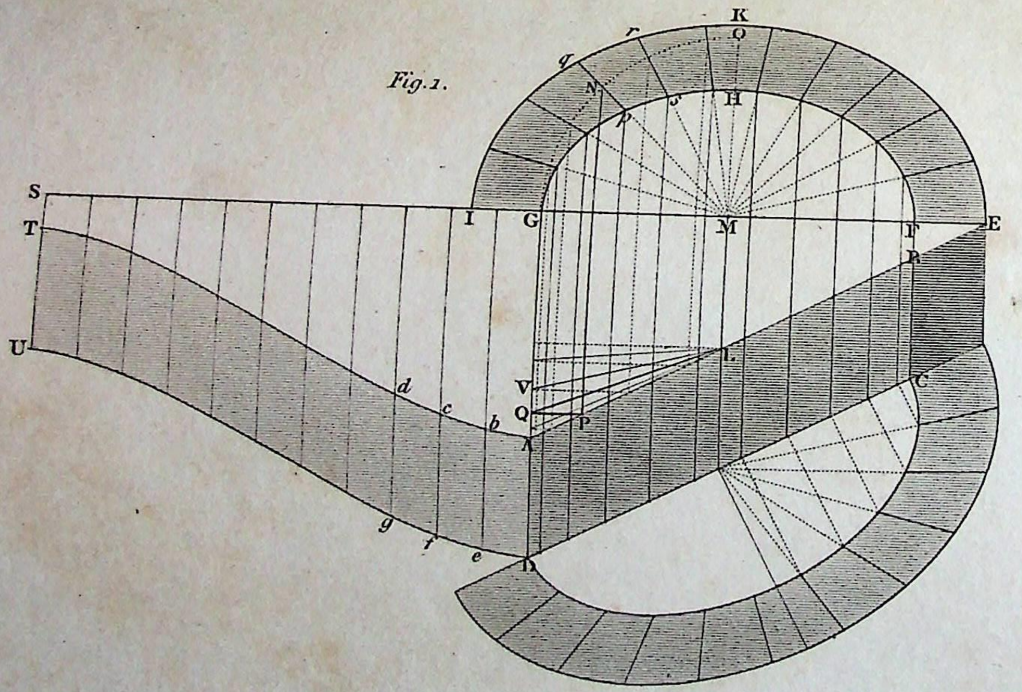
Lowry sculp.

... by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row.

ARCHES.

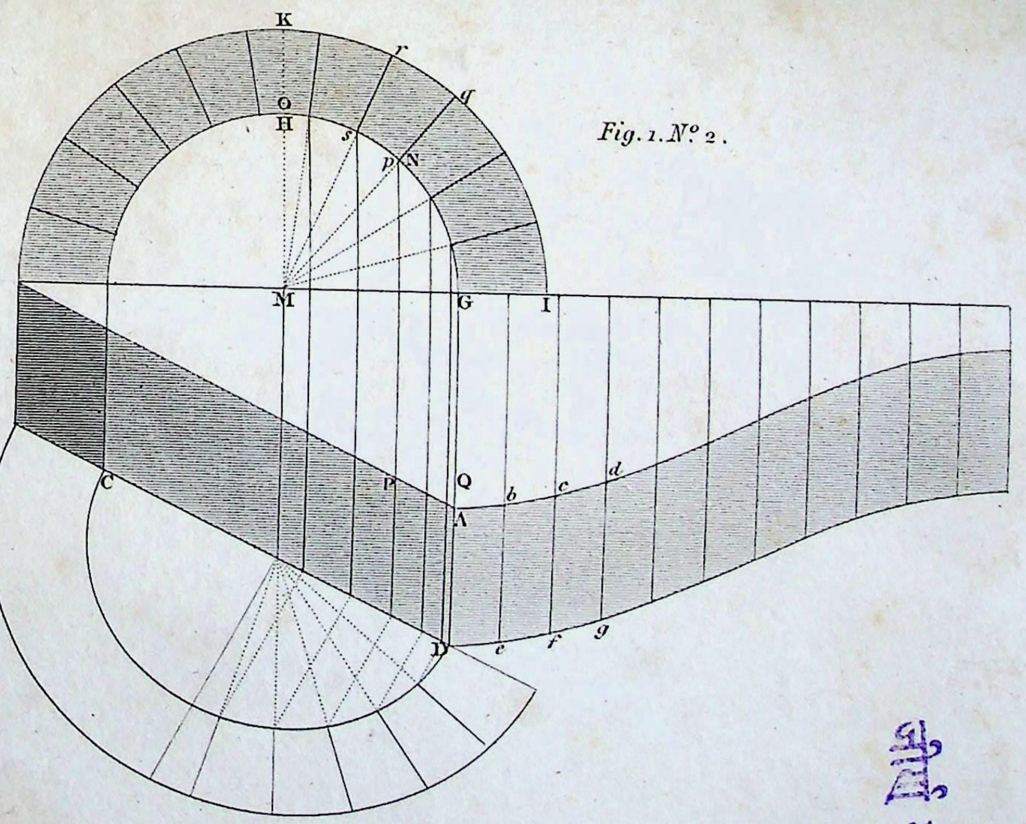
PLANO-CYLINDROIDIC ARCH

Fig. 1.



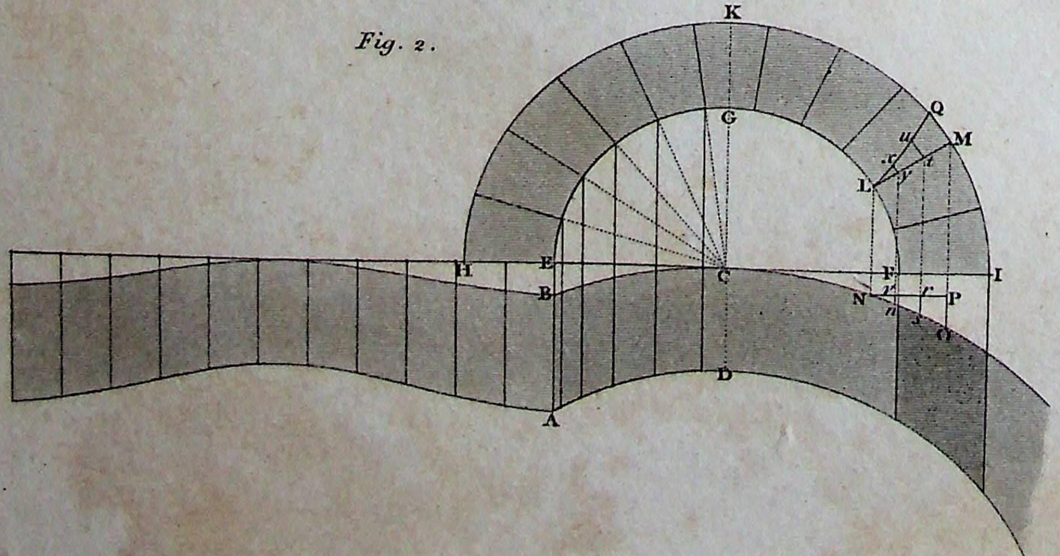
PLANO CYLINDRIC ARCH

Fig. 1. Nº 2.



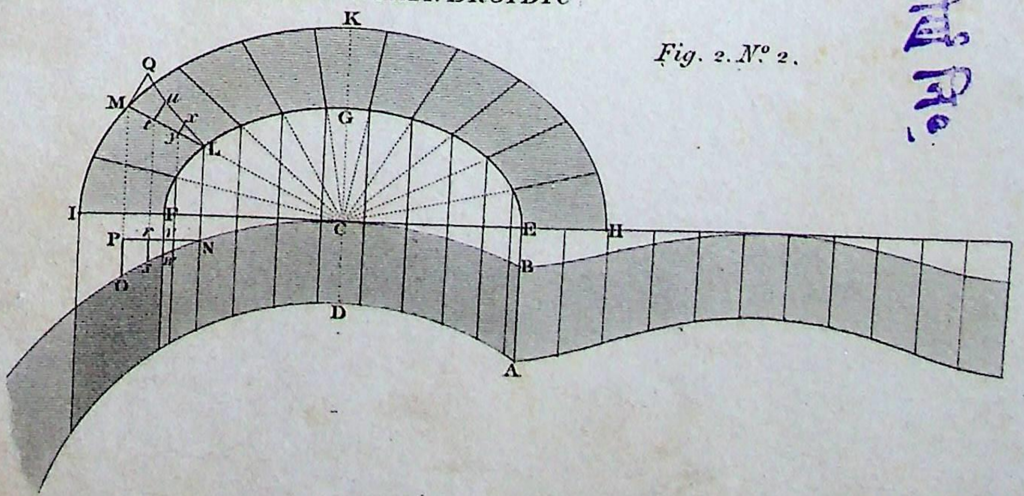
CYLINDRO - CYLINDRIC

Fig. 2.



CYLINDRO - CYLINDROIDIC

Fig. 2. Nº 2.

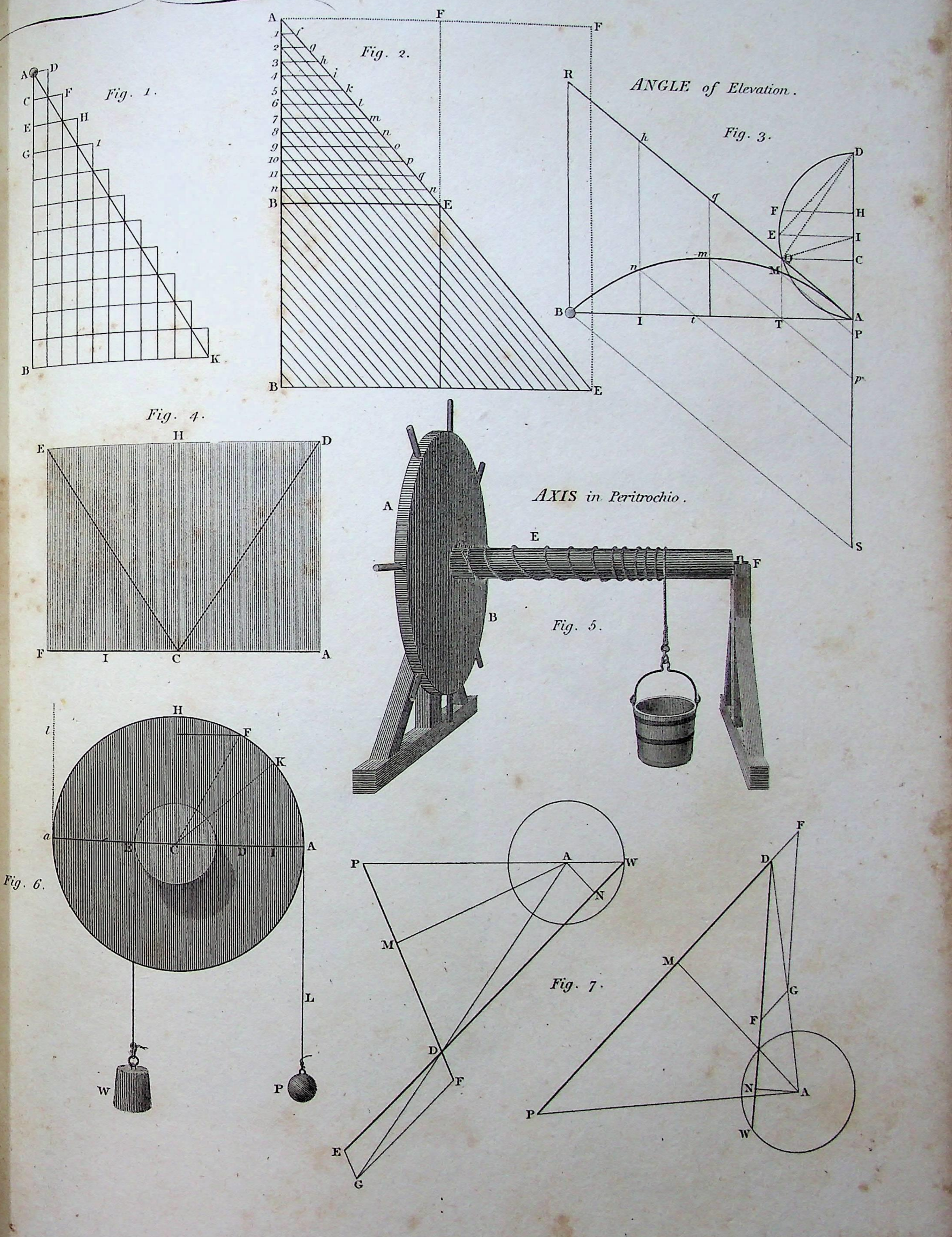


P. Nicholson del.

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Engraved by W. Lowry.

ACCELERATION.



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Fig. 8.

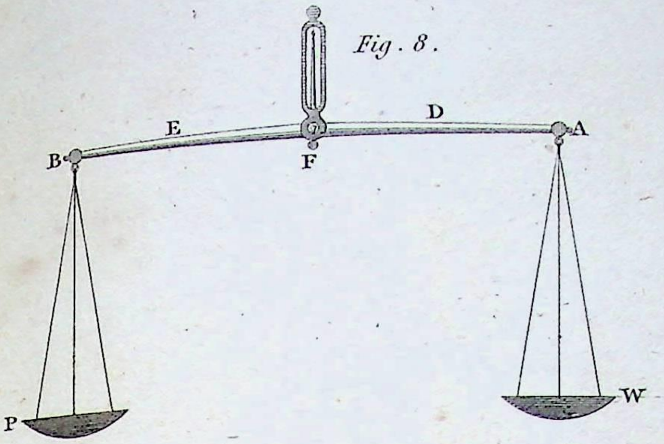


Fig. 9.

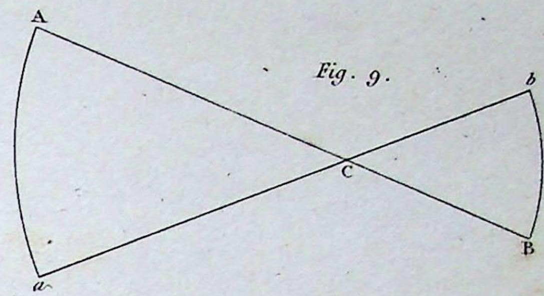


Fig. 10.

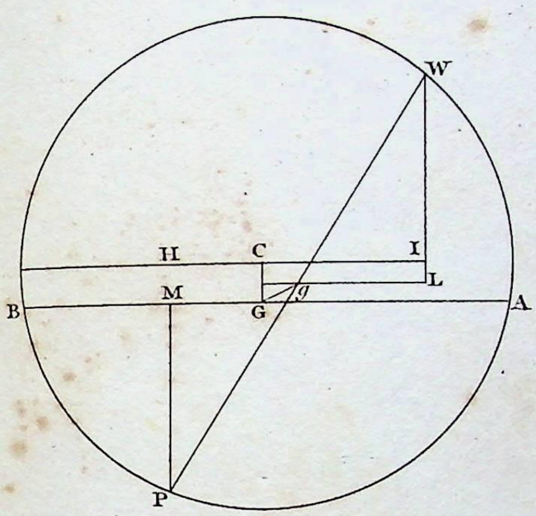


Fig. 11.

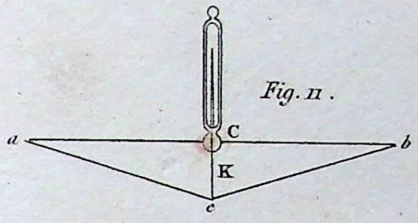


Fig. 12.

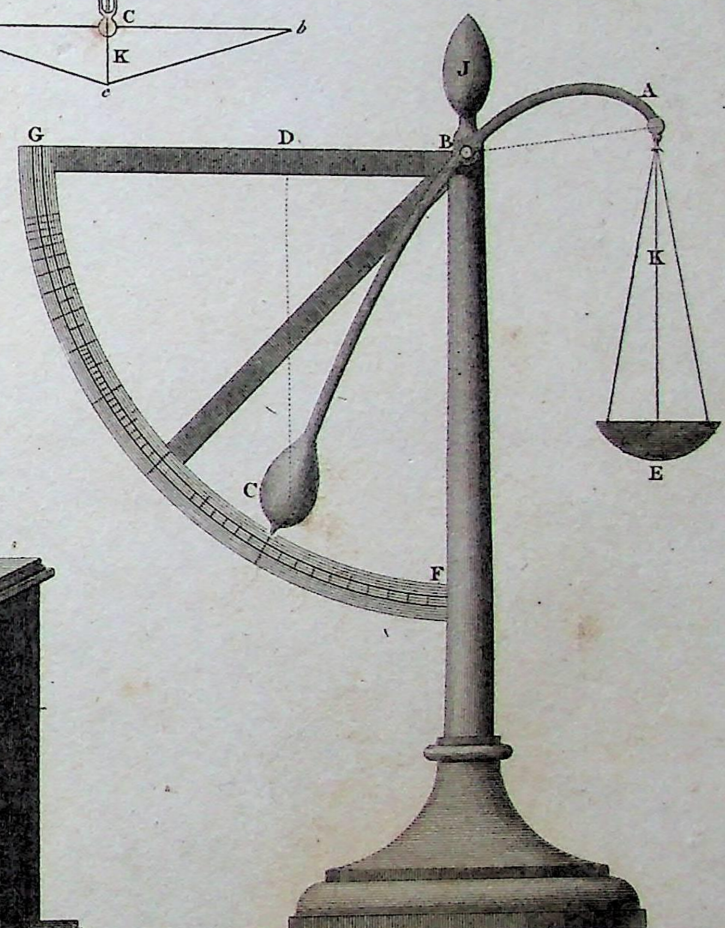


Fig. 13.

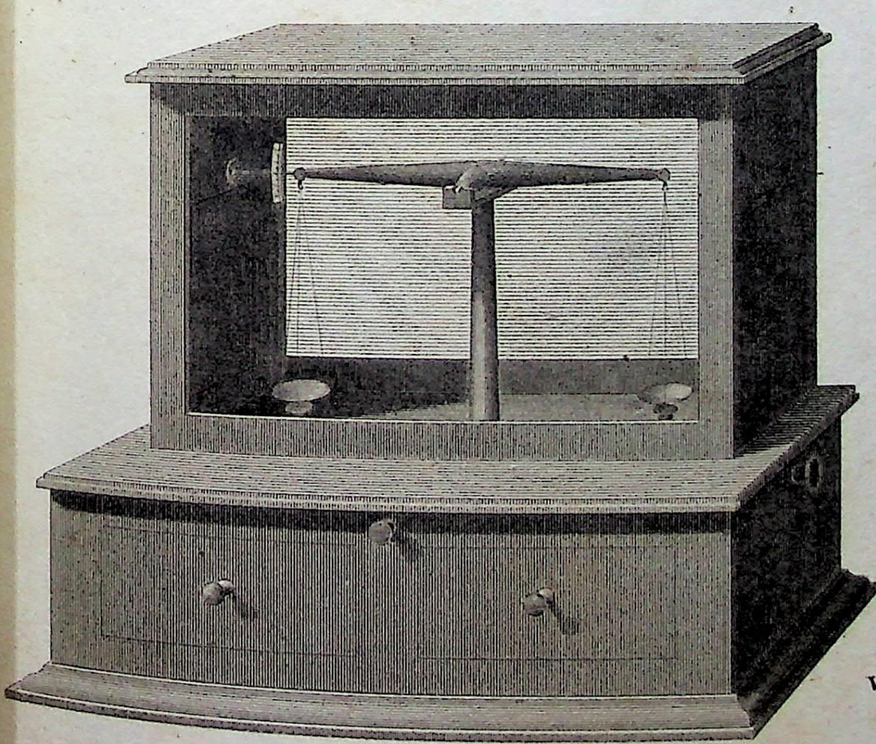
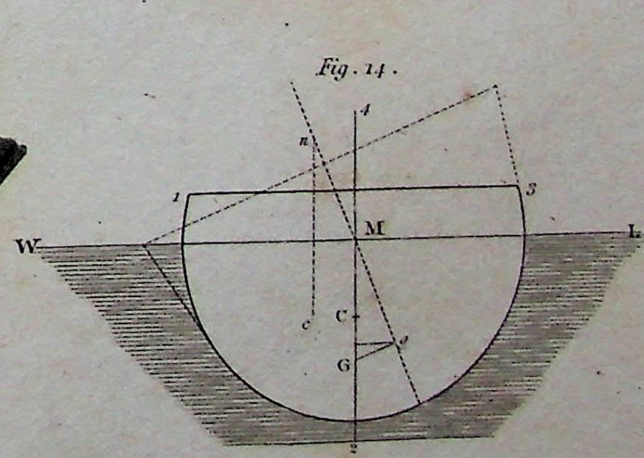
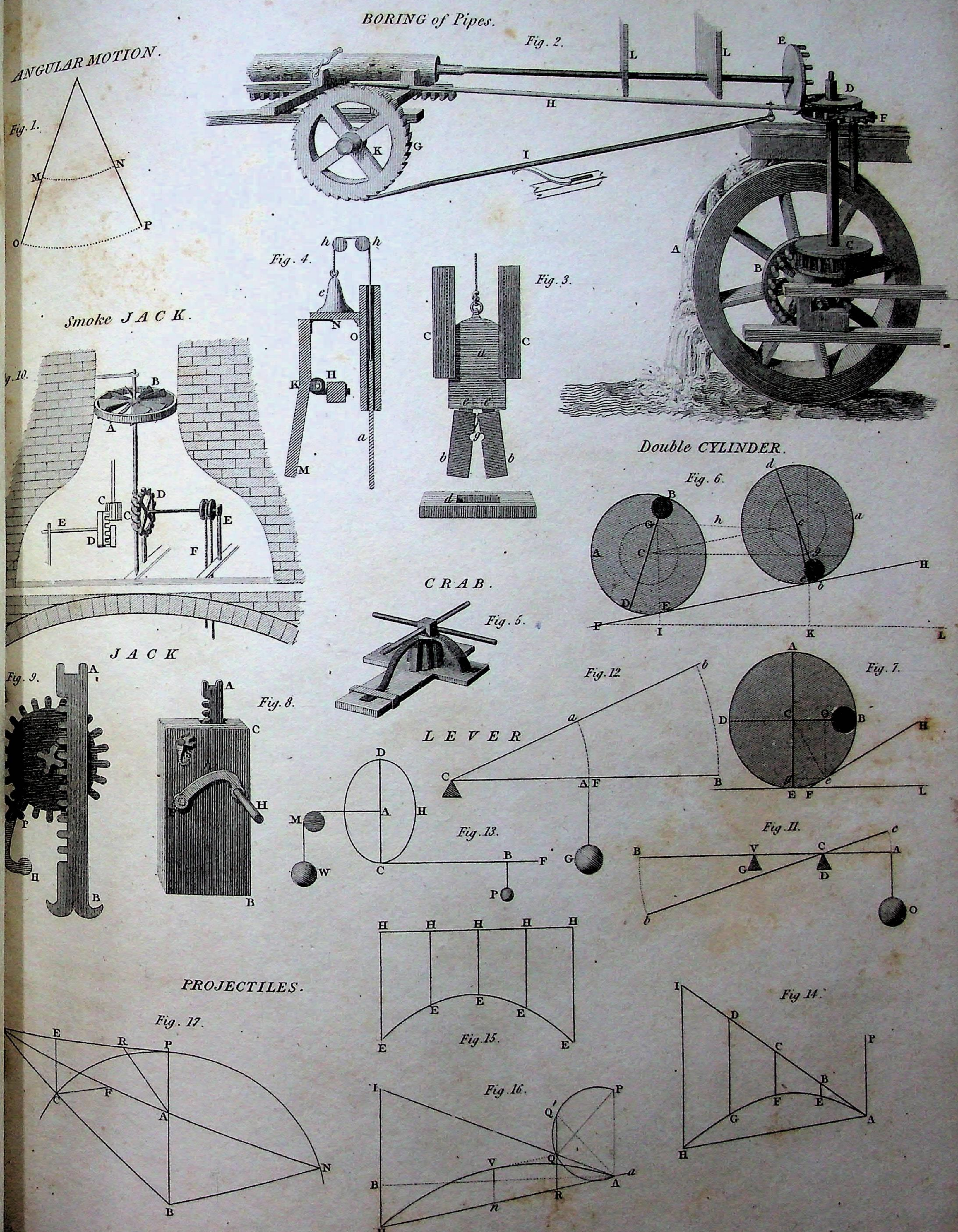


Fig. 14.



Published as the Act directs 181 by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

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Lowry Sc.

Published as the Act directs, 1820, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Fig. 15.

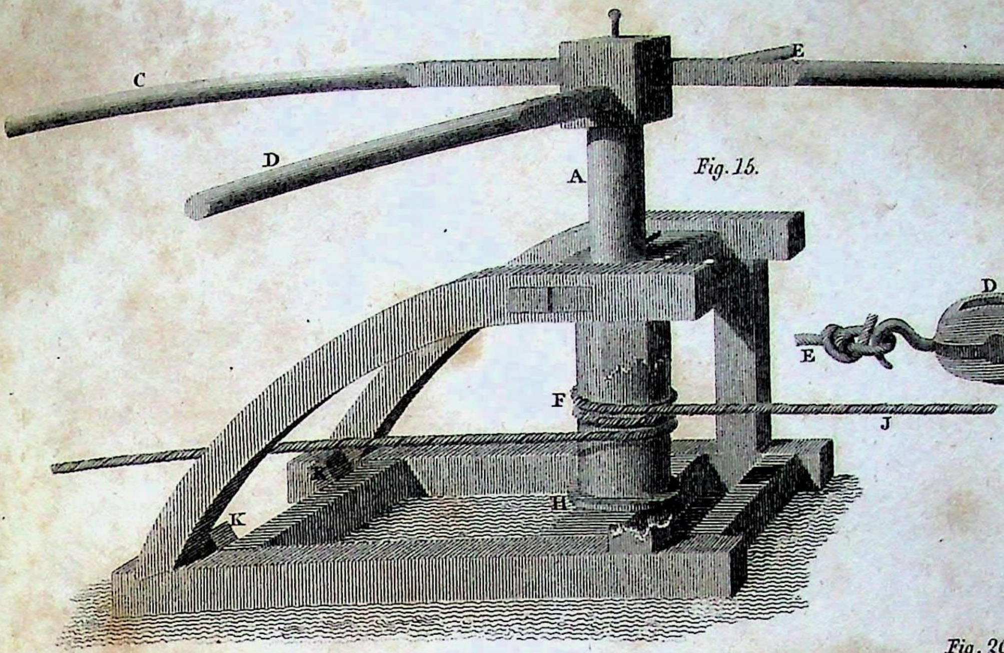


Fig. 16.

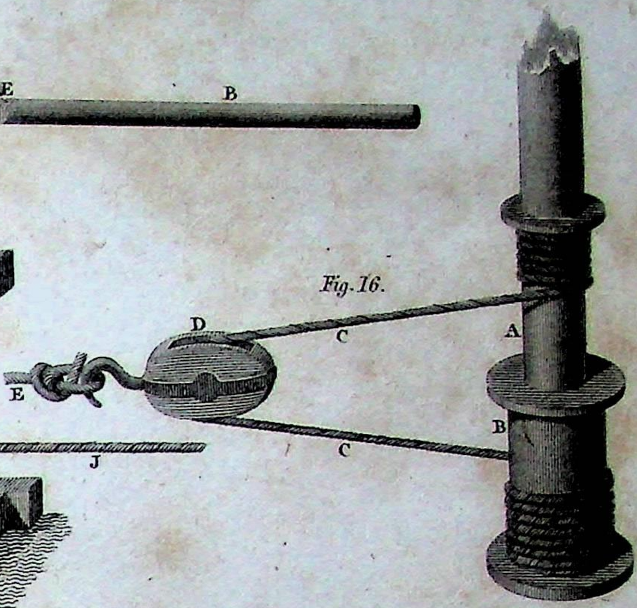


Fig. 20.

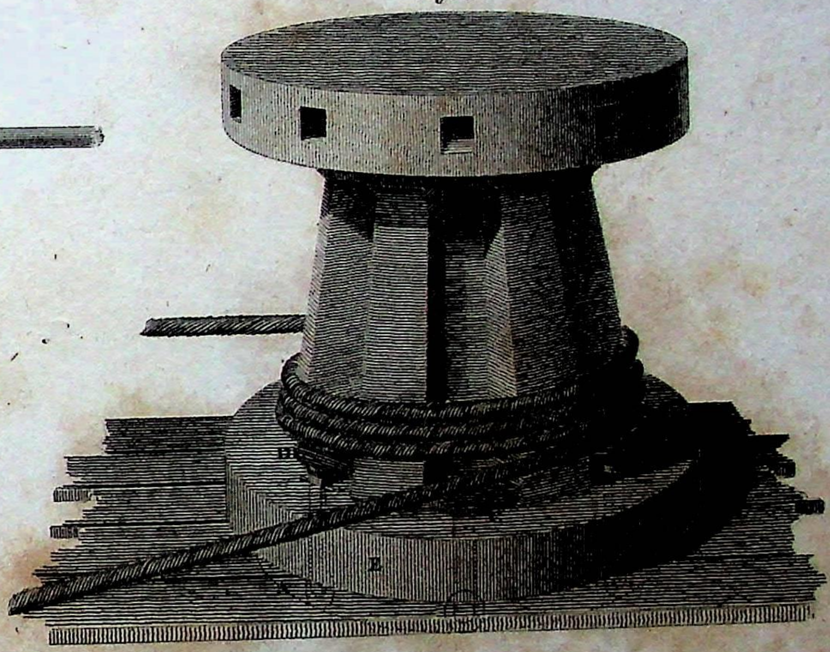


Fig. 17.

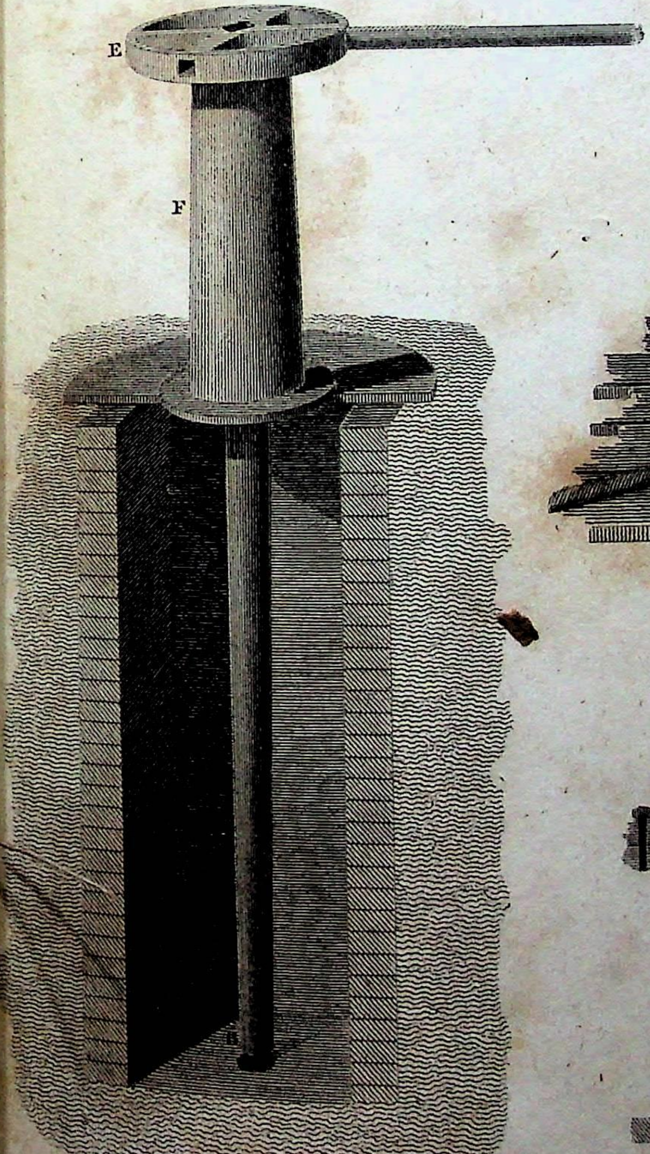


Fig. 18.

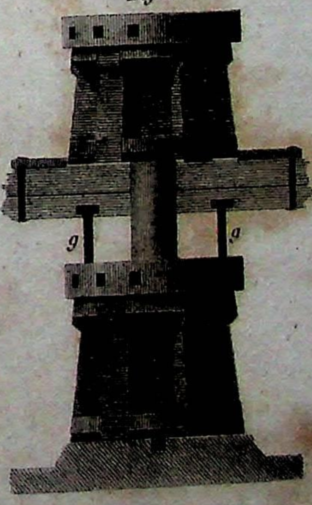


Fig. 19.



Fig. 21.



Jun.r delin.

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CENTER OF FRICTION, CENTER OF GRAVITY &c.

Fig. 21.

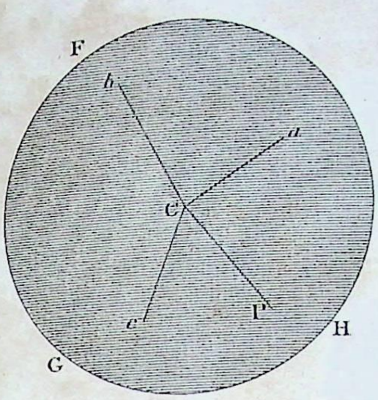


Fig. 22.

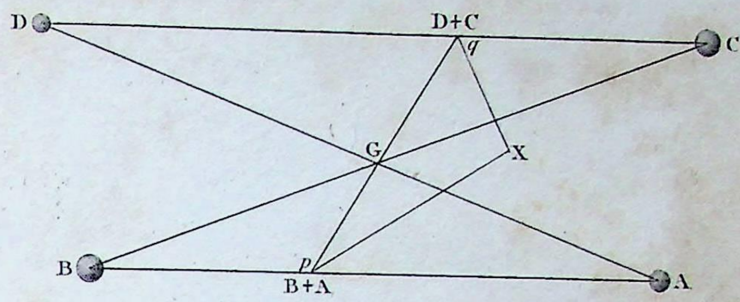


Fig. 23.

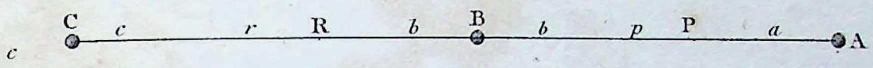


Fig. 24.

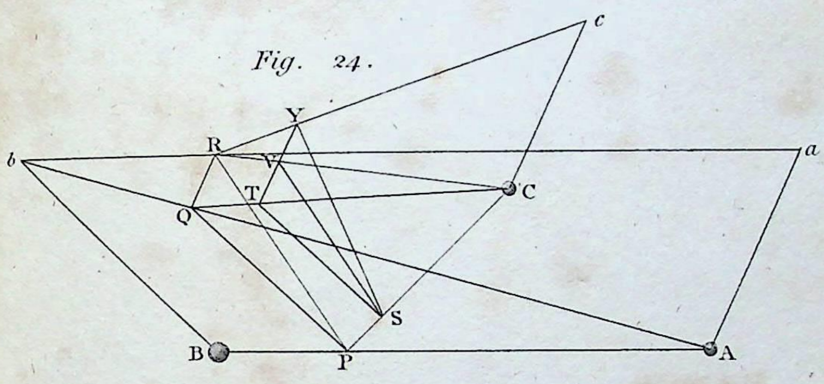


Fig. 25.

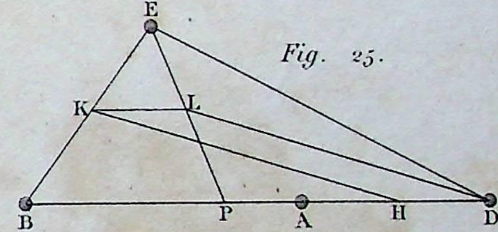


Fig. 26.

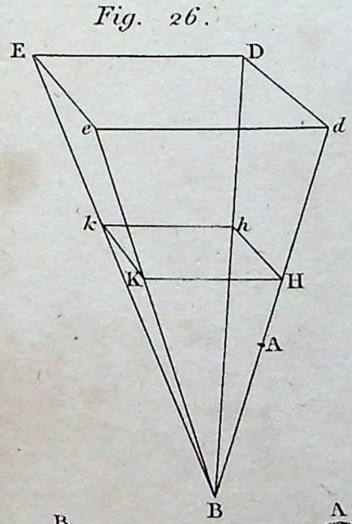


Fig. 27.

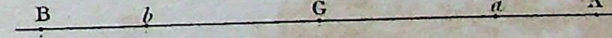


Fig. 28.

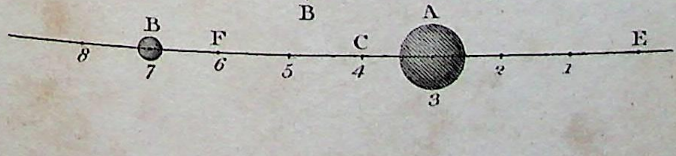
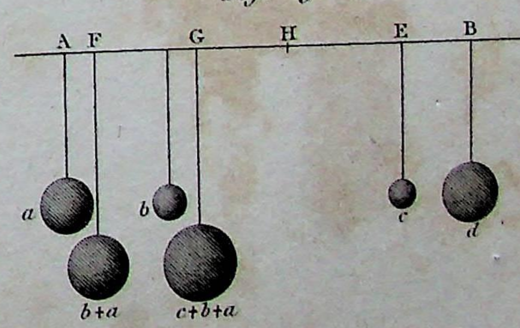


Fig. 29.



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Engraved by Wilson Lowry.

CENTER OF GRAVITY.

Fig. 30.

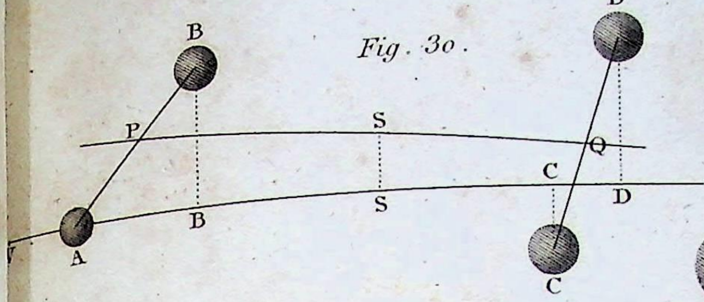


Fig. 31.

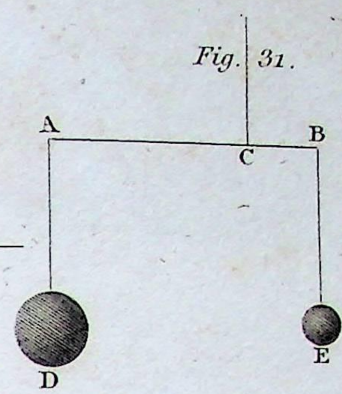


Fig. 32.

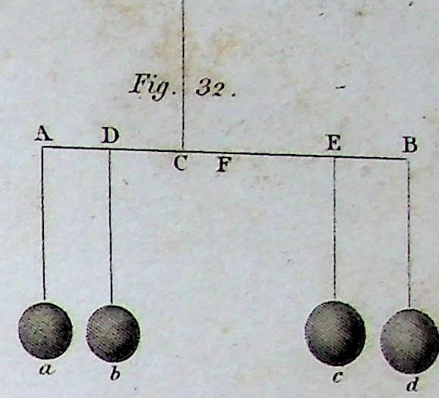


Fig. 33.

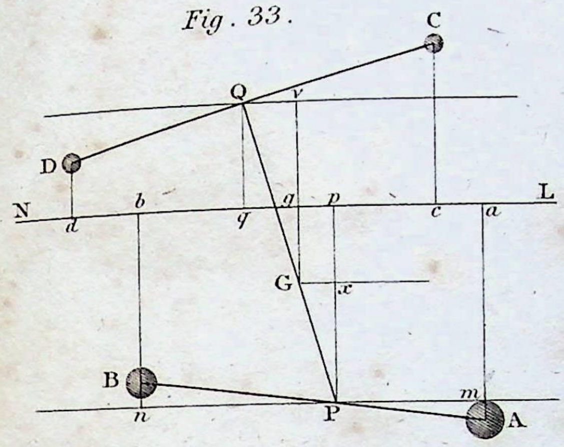


Fig. 34.

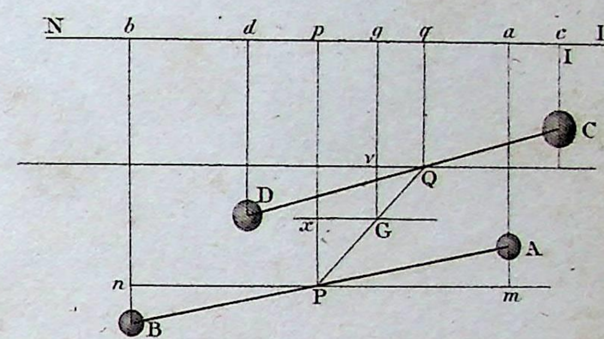


Fig. 35.

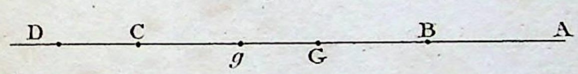


Fig. 36.

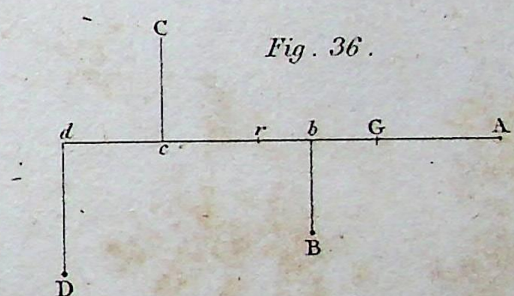


Fig. 37.

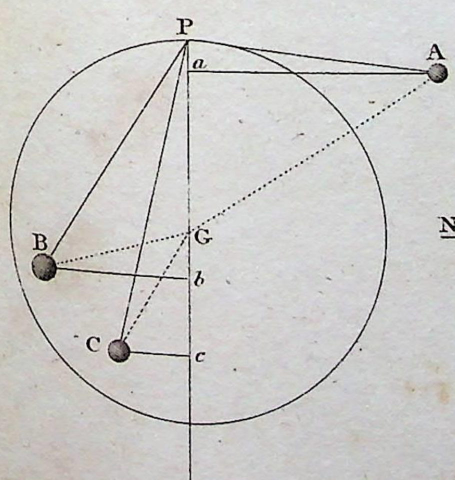


Fig. 38.

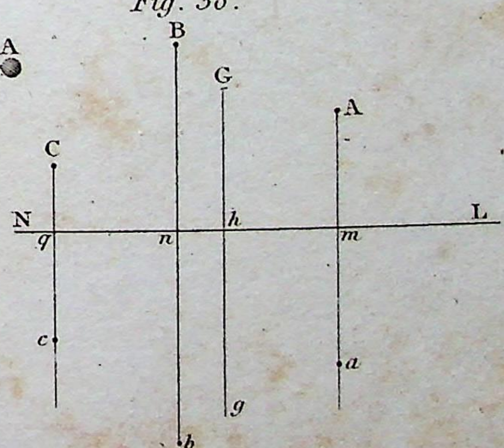


Fig. 39.

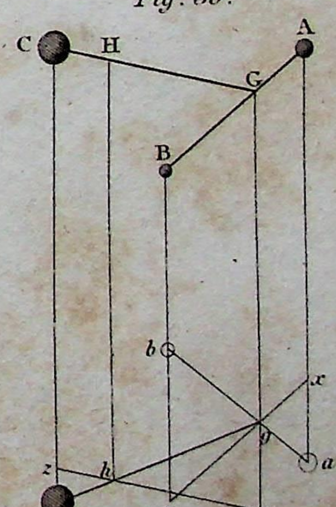
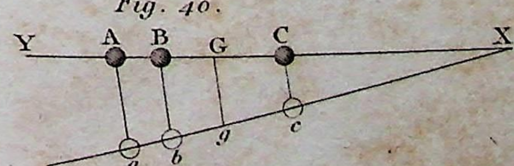


Fig. 40.



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Engraved by Wilson Lowry.

CENTER OF GRAVITY.

Fig. 41.

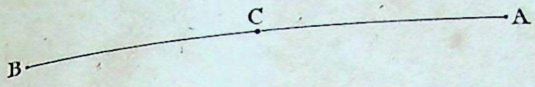


Fig. 42.

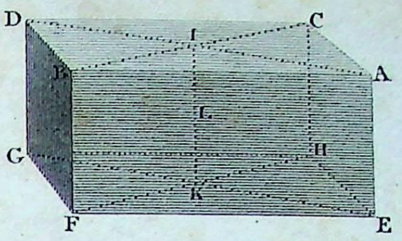


Fig. 43.

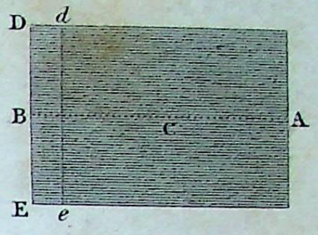


Fig. 44.

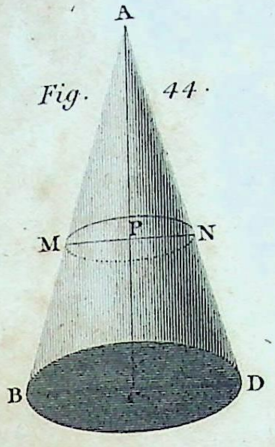


Fig. 45.

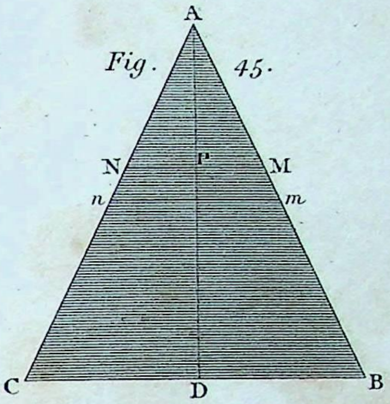


Fig. 46.

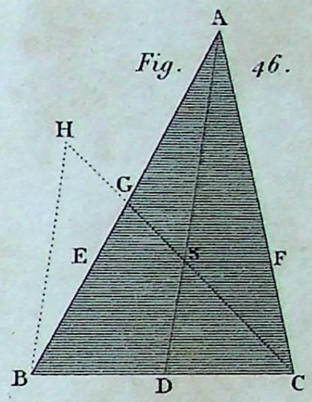


Fig. 47.

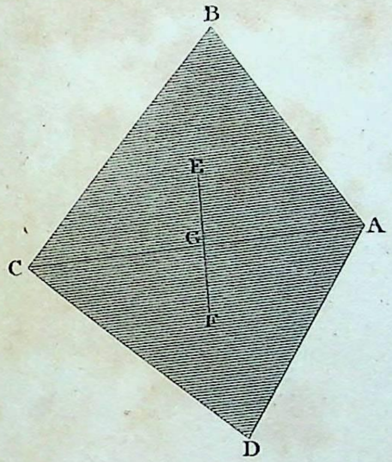


Fig. 48.

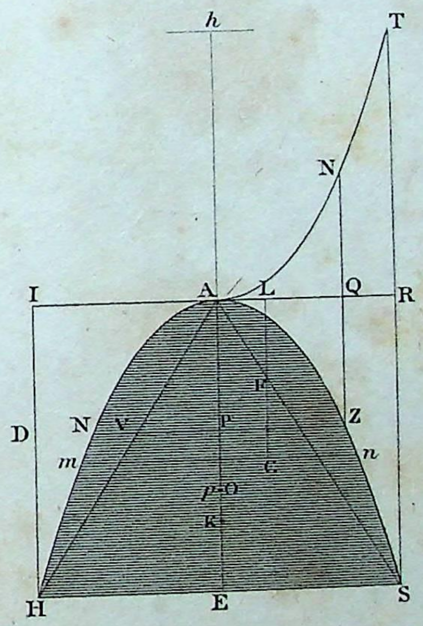


Fig. 49.

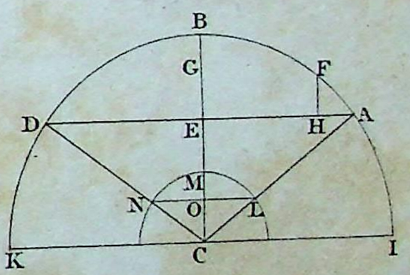


Fig. 50.

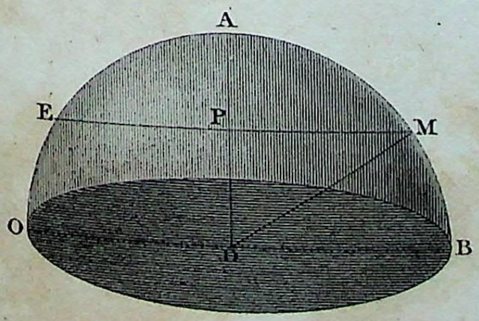
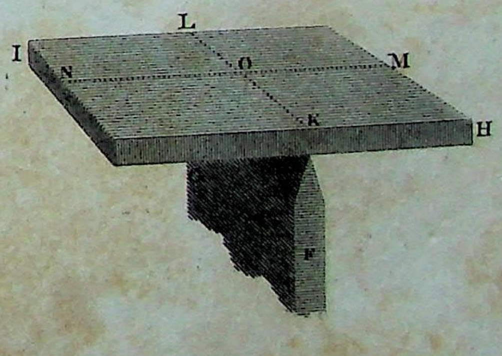


Fig. 51.



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CENTER OF GYRATION, OSCILLATION &c.

Fig. 54.

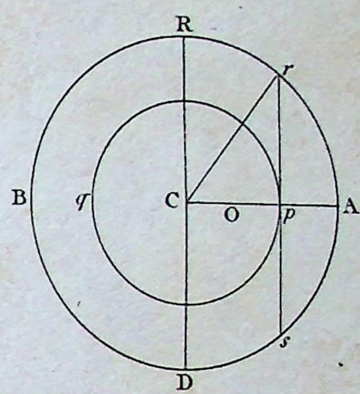


Fig. 52.

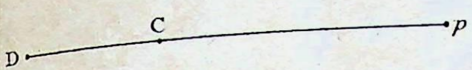


Fig. 53.

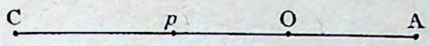


Fig. 55.

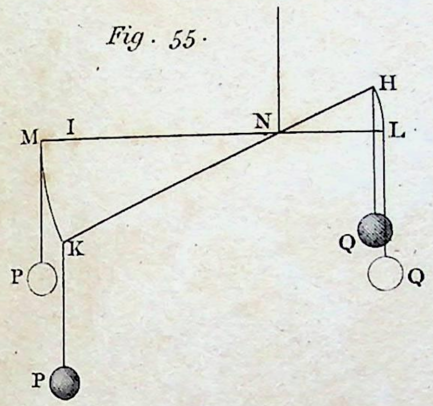


Fig. 56.

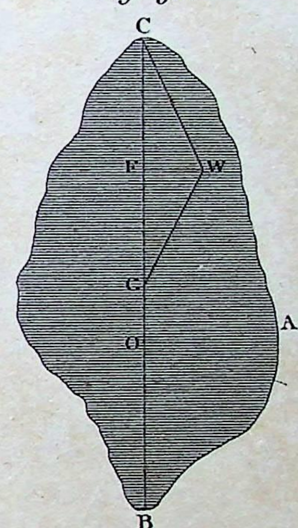


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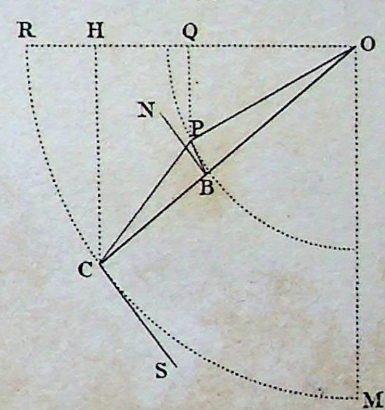


Fig. 58.

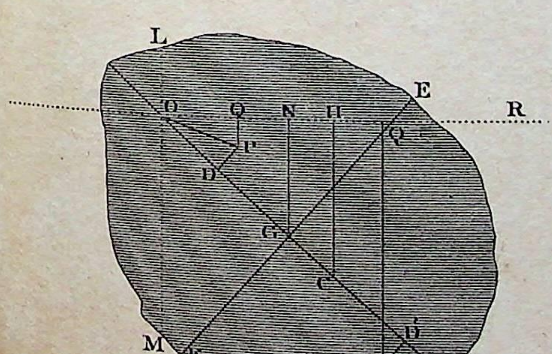
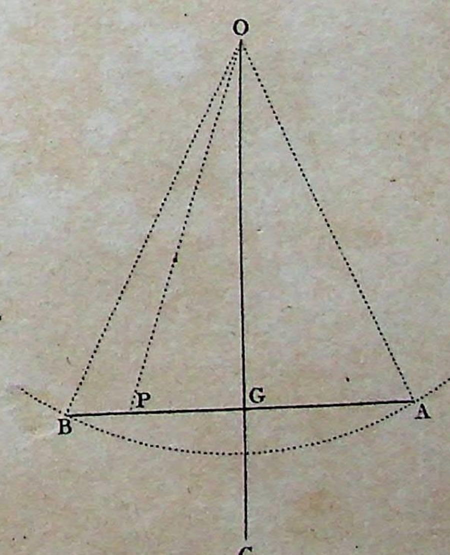


Fig. 59.



Fig. 60.



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Engraved by Wilson Lowry.

CENTER OF OSCILLATION AND CENTER OF PERCUSSION.

Fig. 61.

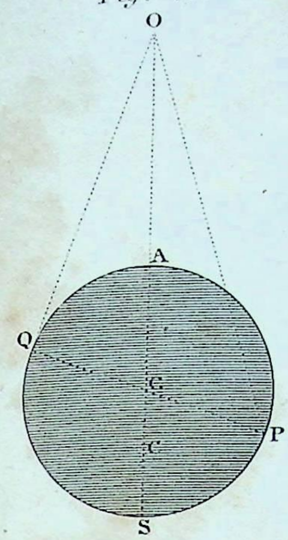


Fig. 62.

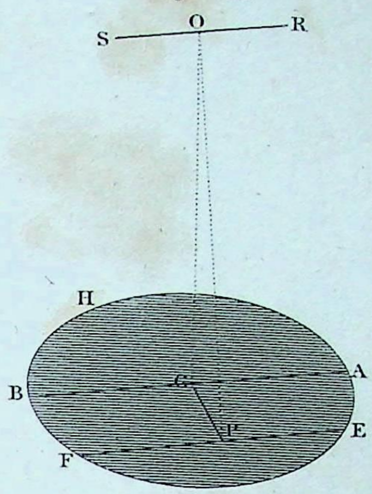


Fig. 63.

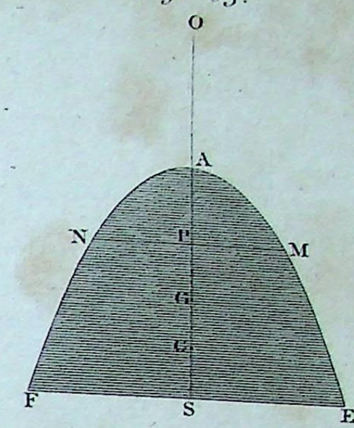


Fig. 64.

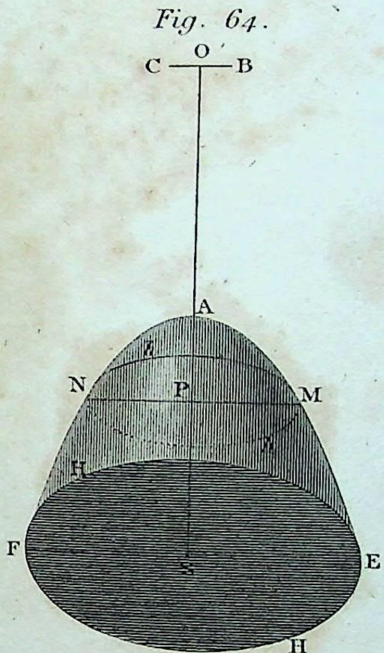


Fig. 65.

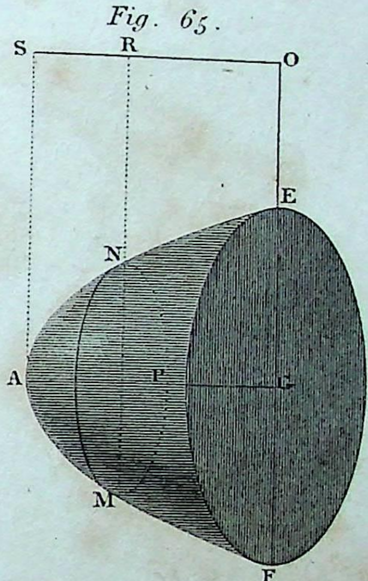


Fig. 66.

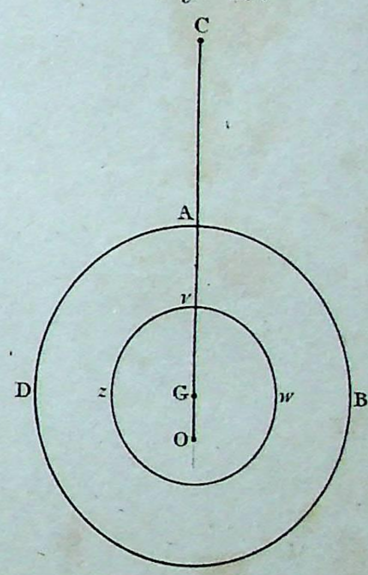


Fig. 67.

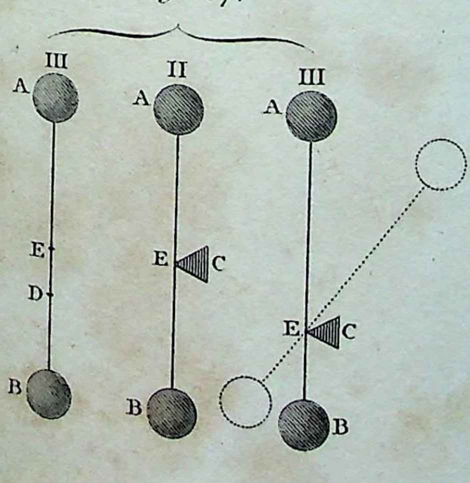


Fig. 68.

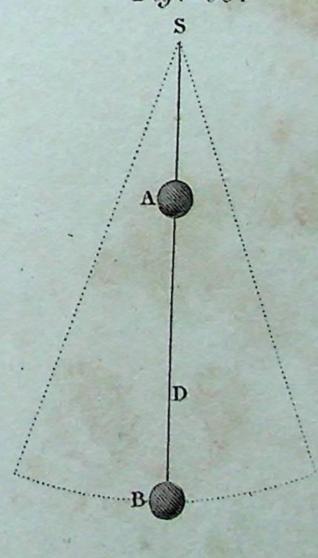
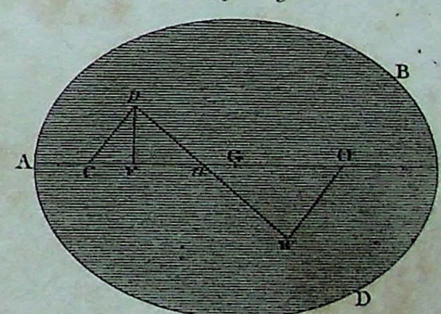


Fig. 69.

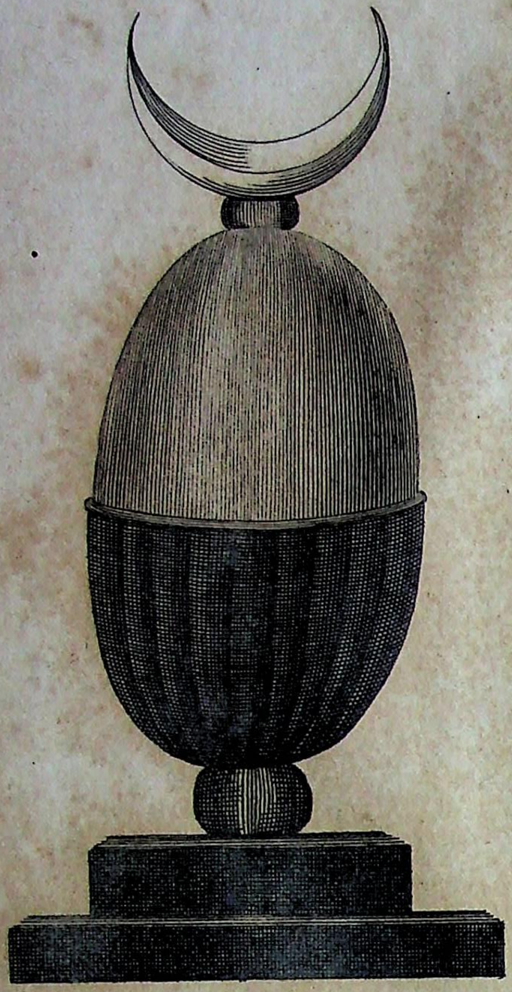


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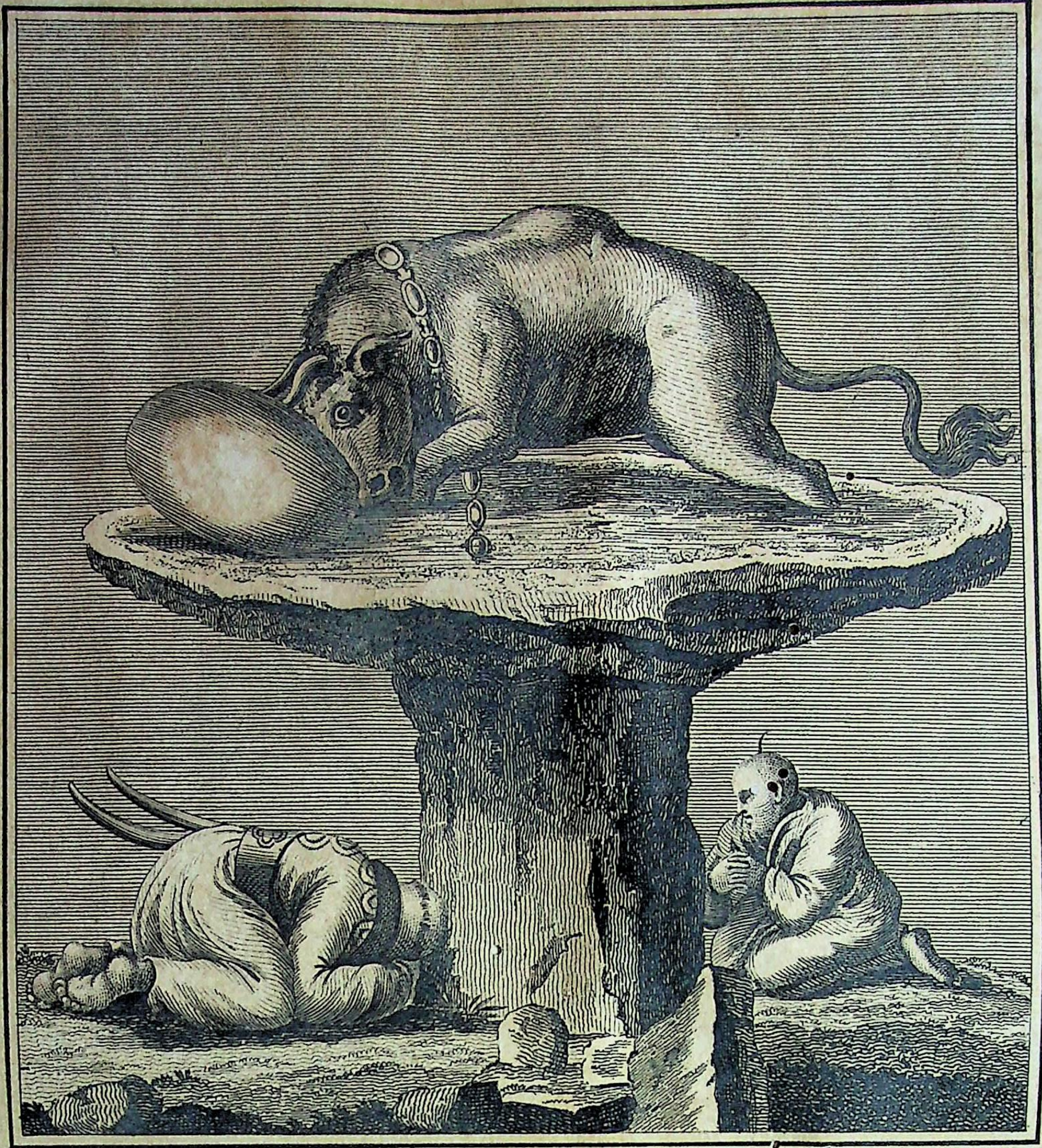
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ASIATIC DEVICES ALLUSIVE TO THE COSMOGONY.

PLATE II.

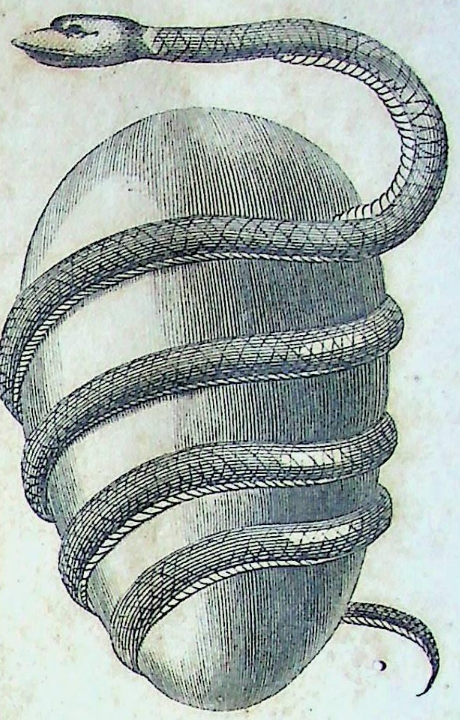


The MUNDANE EGG *of Heliopolis, adorned with the Lunar Crescent.*



Barlow sculp.

The great GOLDEN BULL, *adored at* MEACO, *in* JAPAN, *in the attitude of butting with his horn against the* EGG *of* CHAOS.



The Agathodaimon, or Good Genius symbolized by a Serpent, circling in its genial embrace the MUNDANE EGG.

To his Grace the Duke of Marlborough, a consummate Judge of Oriental Mythology, this plate is respectfully inscribed by T. M.

HISTORY OF HINDOSTAN.

BOOK I.

COMPRISING THE PERIOD BETWEEN THE CREATION AND THE FLOOD; AND CONSISTING CHIEFLY OF ANCIENT ASTRONOMICAL DETAILS.

CHAPTER I.

Of the HINDOO COSMOGONY—*Various Accounts of it in different* SASTRAS—*A few of those Accounts submitted to the Reader—Some striking Circumstances of Similarity between the* HINDOO, *the* HEBRAIC, *the* PHŒNICIAN, *the* EGYPTIAN, *and* GRECIAN *Systems of the* COSMOGONY *pointed out, as in their Account of the* INCUMBENT WIND, *or* SPIRIT, *agitating the* ABYSS; *of* WATER *being the* PRIMEVAL ELEMENT; *of the* MUNDANE EGG; *and of the Principle of* GENERATIVE LOVE—*Of the* CREATION *of the four great* CASTS, *or* TRIBES.

THAT mysterious and frequently impenetrable gloom in which Fable and Superstition have united to veil the early periods of the history of all nations, in a peculiar manner clouds the annals of ANCIENT INDIA. The affectionate gratitude or abject servility of mankind in exalting to the rank of deities their first legislators and most distinguished heroes, has been the source of those innumerable difficulties which, on his very outset, have never failed to assail the historian, and have been so uniformly complained of by those of every age and of every region. With more truth, however, or with more justice, this complaint was never urged than by him who now solicits the attention of the Public, and to whose lot

it has fallen to arrange the historical events of a country so little known to the ancients, and so lately only explored by the moderns. In tracing back, through remote ages, the annals of those nations which inhabit the more polished regions of Europe, where public records are preserved with scrupulous fidelity, and are constantly open to the inspection of literary curiosity, if the task of the historian be arduous, and his path perplexed; what must be the additional labour and perplexity of him who strives to pierce the tenfold obscurity of ancient Oriental records, involved as they are in the mazes of fiction, and buried deep in the bosom of mythology?

This truth will be still more readily acknowledged, when the reader shall have reflected that these are the records of a people whose only genuine annals are written in a language long since extinct, except among the sacred tribe who bear the name of BRAHMA; of a people among whom an assumed pride of national distinction in a particular manner predominates; and by whom the most unprecedented claims to antiquity are urged, not so much with the arrogance of vanity, as with the deliberate coolness of acknowledged superiority, and with the confidence of established right. If, in exploring and unfolding the antiquities of Northern kingdoms, where the sallies of an enthusiastic imagination are less violent and frequent, the path of the historian be confessedly rugged and obscure,* what superior difficulties must he have to encounter who is in search of truth amidst the endless labyrinth of Asiatic allegory; in climes where policy and religion are inseparably blended throughout the same system; where invention has ever flourished with uncommon vigour, and where fancy seems still to reign in the meridian of her glory? When, in his survey of the most early periods, the reader observes with astonishment the

* "The origin of nations is dark and fabulous. Every thing beyond that short period to which well-attested annals reach, is OBSCURE, &c." Hist of Scotland, Vol. I. p. 1.

high pretensions to antiquity of the old Egyptians, who, in a long table of thirty dynasties of ante-diluvian deities and post-diluvian monarchs, asserted their alliance with heroes, and their descent from Gods;* when he revolts at the multiplied fictions and exaggerated boasts of Chinese chronologers,† how will his patience be exercised, and how will he think his reason insulted by the lengthened details of Indian cosmogonists, and the superior assumption of Brahmin historiographers?

Tedious and incredible, however, as those details are, and unfounded as probably are those assumptions, Voltaire and Bailly wanted neither credulity to admit their antiquity, nor confidence to defend their authenticity. In discussing the subject of Indian antiquities, a dagger of late years seems indirectly to have been aimed at the vitals of that Religion upon whose unshaken verity all our hopes of future existence and happiness depend. It is therefore a subject which, in the course of this work, will occasionally claim our particular attention; for as a great Orientalist, with an energy of expression becoming the subject, has remarked; "Either the first eleven chapters of Genesis, all due allowances being made for a figurative Eastern style, are true, or the whole fabric of our national religion is false."‡

A period of many millions of years, according to the Hindoo historians, has elapsed since the almighty fiat produced CREATION. Of that magnificent event, we are informed, in the Ayeen Akbery,§ that there are no less than eighteen different opinions prevailing in Hindostan; but I forbear in this place to give their romantic details. However indefatigable might have been the minister of Akber, in

* Syncelli Chronographia, p. 54, 55.

† See Martinii Sinica Historia, p. 21, and Du Halde's General History of China, Vol. III. p. 80.

‡ Asiatic Researches, Vol. I. p. 225.

§ See Ayeen Akbery, Vol. III. p. 6.

his efforts to procure authentic intelligence concerning the opinions of the *Hindoos* on this and other subjects, the English, in more modern times, have been far more successful in penetrating the obscurity that for so many centuries has veiled both their history and philosophy. From the more genuine sources of information which they have discovered, and principally from Sir William Jones, I shall now proceed to exhibit, in as concise a manner as may be consistent with perspicuity, the real sentiments entertained by the natives of Hindostan, as they stand recorded in their own most venerated books, concerning the creation of the universe, and the formation of its various inhabitants.

For the better comprehension of this extraordinary system, it is necessary to remind the reader that, according to their extensive conceptions, the earth we inhabit is but one of numerous regions intended for the transmigration of spirits, or Devatas, who have fallen from their original rectitude, and who are doomed successively to ascend from the lowest sphere of punishment and purgation to the most exalted mansion of purification and perfection. Upon this basis the whole system of that theology, which is so intimately blended with their earliest history, rests, and a proper attention to this circumstance will serve as a perpetual clue to guide us through the most obscure and intricate avenues of that vast labyrinth. We shall cease to deride the extravagant benevolence which erects hospitals for aged goats and cows, and which prepares luxurious banquets of sugar and rice for the humble progeny of ants and flies; and we shall forbear to condemn, as rashness and insanity, the pious zeal which cherishes beneath an human roof the brood of envenomed snakes and noxious vermin.*

* Ovington's Voyage to Surat, p. 298. To the instance which this author relates of the secretary of the brokers at Surat feeding a large snake, which daily came into his house, with bread and milk, on the idea that it was tenanted by the soul of his deceased father, may be added another, given by a more recent writer, who informs us, that, in 1761, ABDOOLA KHAN,

The following is the substance of a passage descriptive of this grand event, which was literally translated by Sir W. Jones from the beginning of the Manava Sastra, in which MENU, the son of Brahma, addresses the sages who consulted him upon the subject of the formation of the universe. Sir William, in my humble opinion injudiciously, supposes a part of this description to be a direct paraphrase of the Mosaic account. MENU informs his inquirers, "that this world was all darkness undiscernible, undistinguishable, altogether as in a profound sleep: till the self-existent invisible God, making it manifest with five elements, and other glorious forms, perfectly dispelled the gloom. Desiring to raise up creatures by an emanation from his own essence, he first created the waters, and impressed them with the power of motion: by that power was produced a golden egg, blazing like a thousand stars, in which was born BRAHMA, the great parent of all rational beings, THAT WHICH is, the invisible cause, self-existing, but unperceived! That divinity having dwelt in the egg through revolving years, HIMSELF meditating upon HIMSELF, divided it into two equal parts: and from those halves he formed the heavens and the earth, placing in the midst the subtil æther, the eight points of the world, and the permanent receptacle of waters."* This doctrine will appear to many as a strange compound of true and false theology, and as very apparently exhibiting the blended principles of the Hebraic and other ancient, but less pure, systems of the cosmogony.

It will presently be seen, that I am by no means an advocate for the chronological extravagances of the credulous and superstitious priests of Brahma: yet it would be unjust and absurd to refuse to their claims in favour of their sacred Vedas the honour of very remote antiquity; an antiquity equal, if not prior, to the most vene-

one of the Rohilla princes, having taken the habit of a Fakeer, expired by the bite of a snake, which he affected in a similar manner to cherish. See History of the Rohilla Afghans, p. 160.

* Asiatic Researches, Vol. I. p. 245.

rable writings of the world The superior authenticity, however, of the Mosaic history is by no means affected by this concession: it derives, on the contrary, a proud addition of strength and lustre from the congenial archives of this great and ancient nation. That an alphabet existed in India, and that the Vedas were written in an age previous to the exodus of the children of Israel from Egypt, and consequently at a period long antecedent to that in which Moses, at the command, and, as I believe, by the inspiration of God, commenced his history of the world, it might appear presumptuous to assert; and yet for such an opinion there are the most solid grounds. There is neither absurdity, nor impiety, in supposing the wonderful and complicated DEVINAGARA character, in which they are composed, and which the Brahmins say was revealed to man by a voice from heaven, to be the shattered remains of an ante-diluvian alphabet, bequeathed to the Indians by the virtuous son of Noah, who first took up his abode in this secluded and happy region of the earth. However, speculation apart, that the Vedas were written in the most early periods of the post-diluvian ages that can possibly be reconciled to our conception of the establishment of society, the growth of science, and the cultivation of language, is a truth most evident, on a comparison (and I assert it on the authority of one who has made that comparison) of those hallowed volumes with other compositions in Sanscreet, with the various Sastras, or commentaries on those volumes, with the Puranas, or books of Hindoo science, and with their sacred dramas, many of which are at least two thousand years old.* It would be extremely difficult to prove that the writings of Moses were ever seen by the learned of India, even through the corrupted medium of Zoroaster; much more, that they were either generally known, or had ever become the subject of particular investigation. Every attempt, therefore, to derive the principles of their theology from a fountain whose stream might

* Asiatic Researches, Vol. I. p. 238, 258.

never have reached India in those remote æras, however well intended, is an injudicious sacrifice of truth to hypothesis, and will by no means bring any new acquisitions of honour or strength to the cause of that religion we profess, which, as it stands in no need of such additional support from other theological codes, so neither can its eternal verity be shaken by the vague, baseless, and visionary chimeras that distinguish the Brahmanian system of exaggerated chronology. It is much more wise, safe, and candid, to acknowledge the general prevalence in those most early periods, and among those most ancient nations, of certain traditions common to all, relative to the first origin of the material world, which might have been revealed to Adam, in the state of innocence, when the Almighty condescended, both personally and by the angels, his divine heralds, to hold communion with his new formed creature, who was made in the image of the heavenly artist. For whence otherwise could arise the universal notion, which indiscriminately prevailed among them, of the vast watery abyss, over which a dark and turbid wind brooding, gave to matter its first motion, the gradual production of light, of the other elements of nature, of the celestial orbs, of the various vegetable produce of the earth, of the brute species, and, finally, of that more noble being who was to be the lord of the creation. The order in which the various parts of the mundane system were produced, according to the Phœnician, Chaldæan, and Egyptian systems of the cosmogony, is in general so exactly conformable to that in which the Hebrew legislator describes their formation, that it is impossible to deny their originating from one source alike common to all. In this opinion many learned and pious men have concurred, and the subject is ably handled by Dr. Jackson, in the first volume of the Chronological Antiquities,* who has enumerated and displayed the various notions of the cosmogony entertained by the most ancient nations; but the Indian cosmogony is unfortunately

* See Chronol. Antiq. vol. I. p. 19.

not once mentioned, nor, indeed, were its true principles known, in any extent till many years after the period in which he wrote. To the authority of this learned chronologist, who was a profound scholar in Greek literature, but totally unacquainted with the Oriental tongues, may be added that of Bishop Cumberland,* who was deeply versed in both the Chaldaic and Arabic languages, and who was of opinion that the true system both of theology and of the cosmogony, was known and remained uncorrupted in the progeny of the virtuous SHEM, but was debased and degraded, even to the denial of the agency of a supreme being in the formation of the world, in the abandoned and idolatrous posterity of HAM. Darkness, water, and a strong impulsive wind agitating the abyss, are circumstances congenial to all the ancient systems of cosmogony, as will presently be more particularly evinced; and I shall only add in this place, in regard to water's being so universally represented by them as the primitive element, and first work of the creative power, that this was the basis of the Ionian philosophy: it being the first principle of Thales, as Cicero relates, "aquam esse initium rerum;"† and it may be added, that as the Greeks thought water was the origin of whatever exists, so they imagined that every thing would be dissolved into water again. In this, however, they differ from the Hindoos, who hold an opinion somewhat conformable to that which Christianity inculcates, that the dissolution of the world shall be effected by a general conflagration, or, in the words of the sacred Sastra of India, that SEEVA, with the ten spirits of dissolution, shall roll a comet under the moon, which shall involve all things in fire, and reduce the world to ashes. The ancient poets, who couched under allegorical allusions the real system of theology, make the gods swear by the waters of Styx, as the most ancient and venerable object in the circle of nature, an oath whose

* See Cumberland's edition of Sanchoniatho, p. 56.

† Cicero, De Nat. Deor. lib. 1. cap. 10.

tremendous obligations were never to be violated. This oath occurs frequently in Homer, and it will be remembered that Pindar begins his first and finest ode by declaring Ἀριςον μεν ὑδωρ.* Not daring, therefore, for the reasons just mentioned, to assert that the Brahmins had ever seen the Mosaic History, I am inclined still to adhere to the opinion recently submitted to the reader, and to suppose that part of the foregoing description, which bears so strong a resemblance to the cosmogony of Moses, to have been the result of primeval traditions, and patriarchal records.

Those who are too fondly attached to the old exploded hypothesis of deducing from Egypt the Indian mythology and sciences, and who scruple not to search even into the fabulous history of that ancient country for circumstances corroborative of their opinion, will probably be inclined to deduce the doctrine promulgated in the remaining part of the preceding quotation from the Manava Sastra, and especially that of the *mundane egg*, from him who, according to all profane authority, from Sanchoniatho downwards, was its real author; from the elder TAUT or HERMES, who flourished in Egypt near four hundred years before the second of that name, prime minister and counsellor of Osiris; the renowned, but perhaps imaginary, invader of India. Of the elder HERMES, it was one of the established maxims, that the world was OVIFORM; and hence the OVAL figure of many of the oldest temples of Egypt. The resemblance of opinion, however, in this and in many other instances, between the inhabitants of India, and those of the neighbouring kingdoms, but particularly Egypt, is so striking, that I hope the reader will pardon me for going, at some detail, into the investigation of a subject which indeed is not foreign to our researches, but intimately connected with that which we are at present considering.

Of the various systems of the cosmogony, according to the Hindoo writers, scarcely any one has been hitherto exhibited to the public in all the various accounts from India, which does not men-

* Vide Pind. Olymp. Ode I.

tion the importance of the egg in the production of creation. In the Ayeen Akbery, the conjunction of Brahma and Teree is said to have produced an egg, which Mahadeo divided into two parts: of one half the Dewtahs, or all celestial beings, were formed; of the remaining half, all terrestrial beings. The idea of the golden sphere above mentioned, probably took its rise from the same source; and even the great triple divinity, Brahma, Veeshnu, and Seeva, are in other Hindoo treatises of the cosmogony said to have been formed from three eggs, dropped from the womb of Bhavani, the first created woman, and consort of Seeva, the last person in the *divine triad*. It is Eusebius, in the third chapter of his Evangelical Preparation, who acquaints us that the Egyptians considered an egg as the apt symbol of the world, and from them this doctrine, together with many Eastern superstitions, was by Orpheus, in succeeding ages, introduced into Greece. Hence the Ωον Ὀρφικον became a subject of great celebrity among both poets and philosophers.

This doctrine of the primeval egg, however, was neither peculiar to the Egyptians, nor to the Indians, for the Phœnicians believed their Zophasemin,* or the heavenly intelligences, which were the objects of their adoration, to be *oviform*, and according to Plutarch,† worshipped an egg in the orgia of Bacchus, as an image of the world. In the same traditionary opinion that the world was made from an egg, or at least bore a great resemblance to it, many other nations of the ancient world coincided, and they supported the propriety of the allegory not only from the perfection of its external form, but fancifully extended the allusion even to its internal composition; comparing the pure white shell to the fair expanse of heaven; the fluid transparent white to the circumambient air; and the more solid yolk to the central earth.

As Brahma, the first person in the Hindoo triad of deity, was

* Zophasemin is derived by Bochart from the Hebrew word Tsophe, signifying spectators, observers; and Samajim, heaven.

† Vide Plut. in Sympos. lib. 3. quæst. 3. et. Macrob. Sat. lib. 7. c. 16.

produced from an egg, so it is not a little remarkable that the very same kind of origin, in the hymns attributed to Orpheus, is allotted to the first-born deity, denominated * Phanes by the Greeks; and it should not be forgotten, that, in the Orphic mysteries, the egg was considered as the emblem of generation and fecundity; whence it probably arose that the egg was also of principal importance in the sacrifices to Cybele, the fruitful *mother* of the gods.

Aristophanes has a passage in which he is thought, under a comic veil, to have given the true system of the ancient Atheistical cosmogony. He describes all as one vast chaos,† unlimited and profound, over which darkness, brooding with sable wings, deposited the first EGG of wind in the ample bosom of Erebus, whence, in process of time, with the force of an impetuous whirlwind, issued AMIABLE LOVE, resplendent with wings of gold, which mingling in embrace with the turbid chaos, engendered men and animals, and produced the earth, the heavens, and even the immortal gods; an origin by no means unsuitable to such degraded beings as were the Grecian deities! These instances are sufficient to prove that the notion of the mundane egg, floating upon the expanse of waters, was not peculiar to the Hindoos, and though it may be impossible to decide with which of these nations the idea more immediately originated, we know the whole system to be only a perversion, through the prevailing physics of the East, of that ancient and universal tradition, that at the beginning of time the eternal Spirit, "dove-like, sate, *brooding* o'er the vast abyss."‡

But there remain other circumstances of pointed similitude in sentiment between the Hindoos and their neighbours in the ancient world, concerning the formation of the earth, and the elements of nature, which equally merit our attention. We have seen the

* By Phanes the Greeks meant the sun, so called απο τυ φαινειν.

† Aristophanes in Avibus, v. 697.

‡ Paradise Lost.

CHAOS, the "rudis indigestaque moles." The relation which follows, extracted from an Indian Sastra, written by the great Vyása, will lead us on still farther in our progressive review of this grand event, in which all the operations of creative love, mentioned in the Orphic theology, are minutely recorded. I shall previously, however, present the reader with an abridgement of the original cosmogony of Taut, as I find it literally translated from Eusebius in bishop Cumberland's edition of Sanchoniatho,* which the reader may compare with that of Vyása, and from that comparison form what inference he pleases. "The principle of the universe was a dark and windy air, or a wind made of dark air, and a turbulent evening chaos. These things were boundless, and for a long time had neither limit nor form; but when this wind fell in love with its own principles, and a mixture was made, that mixture was called DESIRE. This mixture completed, was the beginning of the making of all things. But that wind did not know its own production; and of this, with that wind, was begotten Môt, which some call Mud, others, the putrefaction of a watery combination. And of this came all the seed of this building, and the generation of the universe. But there were certain animals which had no sense, out of which were begotten intelligent animals, who were called Zophesamin, that is, the overseers of heaven, and were formed alike in the shape of AN EGG. Thus shone out Môt, the sun and the moon, the less and the greater stars."

We are informed in the Indian Sastra, that AFFECTION (by which is doubtless meant the Ερως of the Greek philosophers) dwelt with God from all eternity. It was of three different kinds; the creative, the preserving, and the destructive; in other words, it was displayed in the agency of Brahma, Veeshnu, and Seeva. "The affection of God produced Power, and Power, at a proper conjunction of Time and Fate, embraced Goodness, and generated Matter."

* Cumberland's Sanchoniatho, p. 2.

It is worthy of remark, that the Sanscreet word used for matter, and inserted at the bottom of the page, is *Mohat* ; and the Phœnician term used by Sanchoniatho, in his account of the cosmogony of Taut, or Thoth, we see is *Mốt*. Now the learned Bochart, commenting upon this passage of the Phœnician author, derives *Mốt* from an Arabic root, signifying the first matter of things. Bishop Cumberland, upon the same passage, somewhat differs from Bochart, imagining *Mốt* to be derived from another Arabic verb, implying to steep, or macerate in water, whence he observes, the noun formed from that verb signifies the solution thereby produced, or, in the language of physicians, a mucilage. If Mohat be in reality a word of Arabic derivation, it is a circumstance which seems to shake Mr. Richardson's assertion, that no Arabic words were introduced into Hindostan earlier than the period of the invasion of that country by the Caliph Al Valid, in the eighth century, or rather it will tend to prove, what is far more important, that all the languages of the earth are derived from one grand primeval alphabet, which was once general, like its religion, till, like that religion, in its progress to remote countries and to distant generations, its original simplicity and purity were debased and corrupted by mankind.

But to proceed in the account which this Sastra gives of the cosmogony. "From the opposite actions of the creative and destructive qualities in matter self-motion first arose. These discordant actions produced the Akass,* which invisible element possessed the quality of conveying sound ; it produced air, a palpable element ; fire, a visible element ; water, a fluid element ; and earth, a solid element. The Akass dispersed itself abroad. Air formed the atmosphere ; fire, collecting itself, blazed forth in the host of heaven ; water rose to the surface of the earth, being forced from beneath

* The Akass is in Indian books explained to be a kind of celestial element, pure, impalpable, and unresisting, in which the planets move, and seems to be of kindred with the doctrine of air rarified into æther, maintained by the Stoic philosophers.

by the gravity of the latter element. Thus broke forth the world from the veil of darkness in which it was formerly comprehended. Order rose over the universe. The seven heavens were formed, and the seven worlds were fixed in their places; there to remain till the great dissolution, when all things shall be absorbed into God."

In the manuscript translation of a very curious PURANA on the Indian cosmogony, by Mr. Halhed, now deposited in the British Museum, the order, by which the Deity proceeded in the production of all created objects, is somewhat varied. In this authentic Sanscreet treatise, the "independent Spirit, whose essence is eternal, sole, and self-existent," is represented as, in the first place, giving birth to a certain pure ætherial light,—"a light, not perceptible to the elementary sense, but extracted from the all-comprehensive essence of his own perfections." The Deity then assuming a form apparently, but not really, masculine, for the Deity is properly of no sex, caused to emane from himself "an immeasurable torrent of water," and he preserved it suspended by his almighty power. By the same prolific energy, eggs without number, bearing the shape of the primordial matter, were generated, and floated upon that mighty abyss. From these eggs, denominated in Sanscreet BRAHMANDEL, that is the coverings and integuments of the various objects of which the universe is composed, Brahma, Veeshnu, and Seeva, and all the train of celestial beings, sprang first into existence. Brahma is described to be of a black, Veeshnu of a red, and Seeva of a white complexion. The eight spheres, the residence of created beings, are then successively formed by Brahma, invested with the almighty power; and creation is complete.

These different and somewhat discordant relations of the cosmogony among the Indians, may, I conceive, be accounted for in the general notion prevailing among them, but by no means peculiar to the race of Hindostan, that there have been numerous and succes-

sive creations, dissolutions, and renovations of the mundane system. The relation just exhibited, refers to the original creation of all things: the creation of the existing world is called the lotos creation, or that which took place when Brahma awoke from his slumber of a thousand years upon the leafy bed of the lotos, gliding upon the surface of the gently agitated waters.

I have before remarked the connection which subsists between the theology and early history of the Hindoos: but as the following circumstance seemed rather to belong to the latter than the former, although explanatory of both, I reserved them for consideration in this place. In another part of the Indian Sastra, before cited, Brahma, having at the command of God created the world, is represented as lost in amazement at the wonders of his own creation, and trembling for its safety, exclaims, "O immortal Brahm! who shall preserve from destruction those things which we behold?" Immediately, we are informed, a spirit *of a blue colour issued from his mouth, who was Bishen, the preserver*, or, in other words, Veeshnu, and exclaimed aloud, I WILL. Similar to this there is a very remarkable passage in Porphyry, extracted by Dr. Cudworth, in that part of his Intellectual System where he vindicates the ancient Egyptians from the charge of Atheism, brought against them by Eusebius, in which particular mention is made of a great divinity, whom he asserts they believed to have been (what Brahma in reality was in India) the Δημιεργος, or spiritual architect of the world. This was the supreme and uncreated god CNEPH, who, while the inhabitants of the Lower Egypt were plunged in the most degrading idolatry, was worshipped at Thebais in Upper Egypt with the purest rites; and whom, he says, they symbolically represented by the figure of a being *of a dark blue complexion*, holding a girdle and a sceptre, with a royal plume upon his head, and *thrusting forth from his mouth an egg*. From this egg there proceeded another deity, whom they denominated

Ptha; a term which Dr. Cudworth remarks is at present used among the Copts to signify the divine being. Now it is not a little remarkable, that *a dark blue tint*, approaching to black, as his name signifies, was the complexion of Creeshna, who is considered by the Hindoos not so much an Avatar, as the person of the great Veeshnu himself in an human form. Indeed the same dark cærulean tint, alluding probably to the colour of that primordial flood upon which Narayen, or the spirit of Brahme, moved in the beginning of time, distinguished all the Indian Avatars; but in a peculiar manner belonged to Veeshnu: whence it happens, Sir W. Jones informs us,* " that in the great reservoir, or cistern, of Catmandu, the capital of Nepaul, there is placed, in a recumbent posture, a large well-proportioned image of blue marble, representing Narayen, floating on the waters." This digression will not, I hope, appear totally irrelevant of my subject, particularly when I inform the reader that bishop Cumberland† deduces the term Cneph from a word which in Arabic signifies *to preserve*, or to cover any way, but especially *with wings*; an idea, adds the bishop, who wrote before the modern discoveries in India, and had never heard of Veeshnu, which is very applicable to the great Preserver of men. This explanatory remark compels me to make this digression a little longer; for although in the words of Plutarch, in his treatise De Iside et Osiride, who expressly asserts the god Cneph to be without beginning and without end, and that the inhabitants of Thebais, who worshipped the deity in such purity, were excused from paying the public taxes, levied to defray the charges of maintaining the sacred animals adored in Upper Egypt, I have called that divinty supreme, uncreated, and eternal; yet, in succeeding ages, was this pure worship of Cneph, the one God, the great cause and *preserver* of all things, changed into an idolatrous adoration of the dragon, or *winged* serpent, Cnuphis, whose superb temple at Elephantina in

* Asiatic Researches, vol. i. p. 261. † Cumberland's Sanchoniatho, p. 14. Edit. 1720.

Upper Egypt is described by Strabo,* and of which the extensive ruins, even yet awfully magnificent, were visited by a modern traveller. It was usual with the less ancient Egyptians, after they had thus degenerated from the simplicity of their original theology, to represent the supreme being and his attributes by various emblems and hieroglyphics. They depicted Cneph in the form of a serpent, which was with them, *as with the Indians,* the emblem of eternity, and they added to the body of the serpent the head of the sharp-sighted hawk. Their ideas being thus perverted, they, by degrees, lost sight of the divine original, and at length, as I have before had frequent occasion to remark, was too generally the case in the ancient world, adored the symbol for the reality. In confirmation of what has been said above, a passage from Philo-Biblius in Eusebius may be adduced, where Epeis, their greatest hierophant and scribe, is said to have asserted, that the earliest and most venerated of the Egyptian gods was a serpent, "having a hawk's head, beautiful to look upon, who, if he open his eyes, fills the universe with light in his first-born region; if he wink, it is darkness."† How great and how general was the veneration of *serpents* in ancient times throughout Hindostan is evident in every page of their mythologic history, in which almost every fabulous personage of note is represented either as grasping, or as environed with, a serpent. Whoever consults the engravings of the hieroglyphic figures of Salsette, given in the second volume of the Archæologia, will perceive this truth in the clearest point of view. It appears, however, as if this profound veneration of the serpentile tribe had, in the present period, subsided into a dread and horror of that animal; for the *Gehennum,* or hell of the Hindoos, according to Mr. Halhed, is composed of serpents; and the seven inferior boobuns, or spheres of punishment, are asserted to be inhabited by an infinite variety of

* Strabonis Geographia, p. 774. Edit. 1549.

† See the whole passage of Philo-Biblius, as given by Eusebius, quoted by the bishop in the same page (14) as referred to before.

serpents, described in every monstrous figure that the imagination can *suggest*.* From the same cause it arose that such particular mention is made of serpents by the Pandeets, in the account of the creation prefixed to the Code of Gentoo Laws. The *probable* origin of serpent worship has been before frequently unveiled by me; and I shall now add, that *possibly* all the ideas entertained in the Eastern world of the superior wisdom and eminence among the brute creation, of that reptile, have originated in, and are to be traced up to one source: I mean, that kindred and primeval error which possessed the minds of our grand parents in favour of the first serpent, and was the means of both expelling themselves, and excluding their posterity, from the delights of Paradise.

On the ancient sculptures and medals, allusive to the cosmogony, these hieroglyphic symbols, the egg and the serpent, perpetually occur in very great variety; single and combined. That famous representation of the mundane egg, encompassed by the genial folds, of the AGATHODAIMON, or good serpent, and suspended aloft in the temple of Hercules at Tyre, is well known to antiquaries. The Deus lunus ovatus Heliopolitanus, or the divine egg with the lunar crescent adored at Heliopolis, in Syria, is another relick of this ancient superstition, too curious to be passed unnoticed here; and, for the inspection of the reader, both these emblematical designs are engraved on plate II. of this volume. The most remarkable, however, of these symbolical devices is that erected, and at this day to be seen, in one of the temples of Japan. The temple itself, in which this fine monument of Oriental genius is elevated, is called DAIBOD, and stands in Meaco, a great and flourishing city of Japan. The principal image in this design displays itself in the form of a vast bull, the emblem of prolific heat and the generative energy by which creation was formed, butting with its horns against the EGG,

* See Mr. Halhed's Preface to the Code of Gentoo Laws, and also the Brahmin's Preface to the same Code, p. 39, 46. Quarto edit.

which floated on the waters of the abyss. The statue of the bull itself is formed of massy gold, with a great knob on its back, and a golden collar about its neck, embossed with precios stones. The fore feet of the animal are represented as resting upon that egg, and his hinder feet are immersed amidst stone and earth mixed together, the symbol of a chaotic mass, under which and the egg appears a considerable quantity of water, kept in a hollow stone. The basis of the whole is a square altar, the foot of which is engraved with many ancient Japanese characters; and round that foot, in M. D'Hancarville's engraving, are two natives of that country prostrate, and adoring it.* I thought the whole so exceedingly curious, especially as M. D'Hancarville's book is too scarce and costly to be in every body's hands, that I have had it also engraved on the same plate. The attitude of the bull, the suppliant posture of the worshippers, and the spirit and expression conspicuous throughout the whole image, afford no contemptible specimen of the proficiency in sculpture of the ancient Japanese.

In the preceding pages are enumerated most of the systems relative to the cosmogony, prevalent throughout the kingdoms of the ancient world, as they are delivered down to us in the productions attributed to Sanchoniatho, Hesiod, Orpheus, Aristophanes, and other celebrated Pagan writers, who seem scrupulously to forbear mentioning, in their various acounts, the awful name of God, and to be desirous of excluding from those systems the great Architect himself, by whose sole and powerful agency universal nature burst forth into being, from any share in his own creation. But far from these pages, which are intended to be equally faithful to the great outlines of the Indian history, and those of the Mosaic narration, be the dreadful blasphemy against God and against reason, either that this world of necessity existed from all eternity, or, when it began to exist, was only the blind production of a fortuitous concourse of

* See M. D'Hancarville's Recherches sur l'Origine des Arts, vol. I. p. 65.

atoms : far be it, I say, from these pages even to record, without expressions of the most marked indignation, so degrading an hypothesis as that this fair fabric of nature, and all the beautiful and harmonious arrangement of its various parts, was the offspring of a gloomy chaos, self-agitated, and animated by the powerful breath of no supreme demi-urgic spirit In fact, the agitations of an abyss of intense darkness, however violent, could produce nothing but increased disorder, and only generate profounder gloom.

To the eternal honour of the Hindoos, be it observed, that independently of a certain alloy of allegory and physics, which are for ever manifested in all their writings, their accounts of the cosmogony approach nearest, of all those that have descended down to us from antiquity, to the theory of the Hebrew legislator. To that theory, equally distinguished by its sublimity and simplicity, we should be guilty of the utmost injustice, if, after having exhibited so extensive and minute an account of the various hypotheses of the cosmogony, *according to profane writers*, we were to pass by its distinguishing excellencies, wholly unnoticed. In noticing them, however, I shall endeavour to follow the example of conciseness set me by the great historian himself, who relates the grandest events in nature, in the most easy and unaffected, but at the same time in the most interesting and energetic language. In that system we find no vain-glorious assumptions ; no needless circumlocution ; no intricate mythology to be unravelled. Moses equally disdains to obscure truth with the veil of mystery, as to array her in the gaudy dress of allegory. His system required not those fictitious auxiliaries ; nor does he, like other Oriental historians, flatter the race whose annals he records with a vain parade of genealogies, exalting their ancestors to the rank of imaginary deities. A cursory retrospect upon the three first verses of Genesis will fully prove the truth of these asseverations.

In the beginning God *created the heaven and the earth.* In direct

opposition to the ancient Atheistical philosophy, which aimed to establish the eternity of the world, in this verse Moses asserts that the world *had a beginning* ; and, at the same time, he at once, and for ever, annihilates the doctrine of a fortuitous concourse of atoms and matter being the first principle, by avowing the absolute existence and the immediate operations of an eternal, intellectual, omnipotent Being, or to use his own unequivocal language, of God in the formation of it. It is one irrefragable proof that Moses was well acquainted with that threefold distinction in the divine essential unity, which Christianity inculcates, that the word in the original, by which he has here chosen to describe the divine Being in the act of creating all things, is ELOHIM, a plural noun, joined however with BARA, a verb in the singular, to prevent either misconstruction, or misapplication; and the very same word, ELOHIM, occurs not less than thirty times in this short account of the creation. Had not Moses been impressed, and strongly impressed, with this notion, since his grand object was to inculcate the worship of ONE GOD upon a nation that had just emerged from the barbarous and unbounded idolatries of Egypt, he never could have made use of so polytheistical an expression. He would, doubtless, have used, as in the course of his history he often does, the ELOAH, the singular of that noun : or else Jehovah, that stupendous appellation by which the Deity afterwards made himself known to him. It is more than probable that the secret and mystic sense of the word ELOHIM was known to the Rabbins, and preserved among the most venerated arcana of their cabalistic doctrines, in every period of their existence as a nation ; and, though it might not be prudent to reveal that mystic sense to a wavering and infatuated people, who were for ever relapsing into polytheism, yet, that the doctrine of the world, created, regulated, and governed by three sovereign hypostases made a part of the creed of the ancient synagogue, there can be no stronger evidence than their devout and rapturous expressions concerning the *three great*

Sephiroth, or celestial enumerations, as they denominated those hypostases. The subject is amply discussed in the Indian Antiquities, and the truth of the position, I hope, as fully established, as the nature of such an abstruse and complicated question, obscured by the artificial darkness which those Rabbins have diffused around it, would admit of.

As Moses in this verse can only be supposed to describe the creation of our own system, so the word *heaven* cannot without violence be applied to mean any thing beyond the sun, the moon, and the planetary train, which, revolving round the central orb, constitute that system; again, as by the term *heaven* are meant all the celestial bodies that belong to our system, so in the term *earth,* are included all terrestrial objects. In this short verse how many grand and important points are comprehended!

In regard to the old, and often repeated, objection to this part of the Hebrew cosmogony, that it betrays a total ignorance of the true system of the universe, and therefore could not be inspired by the omniscient Deity who presides over it, who knows all its varieties, and regulates all its motions, I shall briefly observe, that from its not being mentioned by Moses, no absolute proof can be drawn that he was not in reality apprised of it. Supposing, for who shall bound the almighty operations! supposing he might have been so far favoured by that omniscient Deity as to have had unfolded to him that grand and stupendous system, as it is known in all its glory to modern astronomers, would it not have been the extreme point of rashness and impolicy; would it not have been the occasion of branding him with the opprobrious title of a bold and presuming innovator in philosophy, to have promulged so astonishing a doctrine in a barbarous age? an age so little prepared to receive it, by previous acquaintance with the abstract sciences necessary for the comprehending of so elevated a portion of human knowledge. But supposing, what I allow is a far more probable circumstance, that

these great and now demonstrated truths were not revealed to him, was Moses, from this ignorance, rendered at all less capable of filling the high and important station to which he was appointed from heaven: to be a wise and upright legislator, was it absolutely necessary that he should be deeply conversant in, and strenuously inculcate the principles of the Pythagorean philosophy? The inspired writers, observes an author, who is a profound adept in the Newtonian principia, delivered the sublimest doctrines in popular language, and abstained as much as it was possible to abstain, from a philosophical phraseology.* In fact, to have adopted so extravagant a conduct, and to have unveiled to the unenlightened Hebrews the most abstruse points of philosophy, when the grand object was to inculcate the maxims most obvious, and the duties most incumbent, in an enlightened theology would have been at once to frustrate the great purpose of his mission, and by it Moses must have infallibly lost the confidence and veneration of his nation. It should moreover be remarked, and in the remark may be found a sufficient answer to those who, like Voltaire and Bolingbroke, aim the shaft of ridicule at the rude and unlettered race of Hebrews, that it was the evident and declared purpose of that God who selected them from the surrounding nations, to preserve them uncontaminated with the gross physics, and false philosophy of the Gentile world, that they might become in a more peculiar manner the people of Jehovah, that they might preserve among them the sacred principles of the true theology inviolable, and practise its sublime precepts with more intense fervour.

And the earth was WITHOUT FORM, *and* VOID: *and darkness was upon the face of the deep.* From this description of the primitive abyss, the TOHU and BOHU of Moses, literally *confusion* and *emptiness*, or, at least, from traditions concerning it faithfully preserved in the great patriarchal families, the ancient writers of the Pagan world,

* See Bishop Horsley's Tracts, p. 389.

doubtless, formed their famous CHAOS, their "rudis indigestaque moles," which we have too plainly seen in their degraded systems of the cosmogony, was considered as the eldest and first principle of all things: το αρχαιον χαος. From this base origin likewise sprang the whole train of their fabulous deities. Aristotle stands almost alone in the records of antiquity, the daring assertor of the eternity of the earth, and of mankind. The futility of all such assertions, whether by ancient or modern sceptics, has been demonstrated by the most solid arguments, chiefly of a physical nature, to be found in the pages of the great Sir Isaac Newton, and which are amplified and illustrated in those of the late learned and ingenious Mr. Whitehurst.* *And the spirit of God moved upon the face of the waters.* The plural noun Elohim, so peculiarly, and so repeatedly before used by Moses, displayed to us the two hypostases, prior in order of the holy triad who formed the universe. In this verse, he brings before our view the third sacred hypostasis in that triad, and denominates him by his own appropriate and distinguishing appellation, το πνευμα Θεȣ, *the Spirit of God.* He is also emphatically represented as engaged in that peculiar function which is more immediately assigned him in sacred writ, that of a quickening and vivifying agent, for that spirit *moved upon the face of the waters,* or rather, as the words should, with more strict fidelity to the original, be rendered, *brooded* over them; incubavit, as an hen, says Patrick, broods over her eggs.† To the very same source, therefore, as that before intimated, may be assigned all those notions so widely diffused over the Gentile world relative to the ωον πρωτογονον, or primeval egg.

With respect to the third and following concise, but energetic verse, containing that sublime and solemn fiat, by which light was produced, *and God said, let there be light: and there was light;* it will

* See Whitehurst's Inquiry into the Original Formation of the Earh, p. 16.

† See Patrick on Genesis, i. 26.

be sufficient for me to observe that Longinus, the greatest critic in all antiquity, has bestowed upon it this merited applause; that it is among the noblest and boldest conceptions of the human mind.

MAN, the most exalted proof of the divine benevolence; MAN, the noblest effort of creative wisdom, yet remained to be formed; and, in this place, it is impossible to forbear remarking upon the vain, and, I may add, the contracted sentiments prevailing in the breast of a Brahmin. According to the limited system of their policy, the whole race of mankind, or, at least, all who are distinguished by the smile of their Creator, are included under the four great tribes flourishing in a particular region of Asia, and no more notice is taken of any other nation, except by the degrading title of MILEECH'HAS, or infidels,* or of any other country, besides that of their own favoured BHARATA, than if no such country or nation any where existed! Situated, as they vainly imagined, in the *centre* of the world, which we have observed the word MEDHYAMA implies, exulting in the title of ARYAVERTA, or the *land of virtues*, which their country likewise enjoys, their imaginations wandered not in search of the numerous and social tribes of men beyond the bounding ocean on the south, the deserts that skirted their country on the west and east, and the great northern range of the sublime HIMADRI. Mr. Halhed affirms the account which follows to be a description of the creation of man, that is, of the FOUR TRIBES literally as the Hindoos believe that event to have taken place. Rejecting, therefore, all less authentic accounts concerning Pourous, the supposed first man, and his wife Pirkiti, imported into Europe by French Jesuits, or English travellers,† let us confine our review of this

* This assertion will appear contrary, as it certainly is, to the liberal sentiments professed in the Preliminary Discourse prefixed to the Code of Gentoo Laws; but the Brahmins of this age are become better acquainted with the earth they inhabit, and its various nations.

† See Father Bouchet's letter to Huetius, in the Lettres Edifiantes, and Lord's Banian Religion, chap. i. p. 3. These words, which should be written POOROOSH and PRAKREETEE, frequently occur in various writers concerning India, and they exhibit a remarkable instance how

event to the concise and genuine, though whimsical, account given of the original formation of man by the Pundeets, in the Preface to the Code of the Gentoo Laws. These venerable sages when assembled at Calcutta in 1775, at the express desire of the Governor General, to compose, from authentic Sanscreet documents, a system of laws for the future government of Bengal, in which is included a considerable share of that theological policy which, springing throughout from the same source, is inseparably blended with their jurisprudence, have thus accounted for the first origin of man. They assert that the Principle of Truth, after having formed the earth, the heavens, the water, the fire, and the air, *produced* a being called BRAHMA, the Dewtah, for the creation of all beings: afterwards he created the BRAHMIN from his mouth, the KHETREE from his arms, the BICE from his thighs, and the SOODER from his feet. BRAHME, as we have before observed, is a Sanscreet word used in the neuter gender, and signifying THE GREAT ONE.* Birmah or Brahmah is the masculine derivative, and is the genitive case of Brahme. Europeans have expressed the word variously, but in the Vedas only Birmah and Brahma occur. Brahme then is the supreme God; Brahma is that mighty Spirit who first emaned from the eternal essence, and by whose immediate agency the world was made; the awful promulger of the sacred Vedas.

The Brahmin, eldest born, and most favoured of Brahma, was created from his mouth, which implies the superior WISDOM and eminence by which this cast was distinguished. The duty prescribed

universally those writers have been misled. Pooroosh indeed signifies simply A MAN, but in Sanscreet tracts of theology, is generally used to signify "a portion of the universal spirit of BRAHMA inhabiting a body." The Deity is often represented under the figure of MAHA-POOROOSH, the great man, or prime progenitor, in conjunction with PRAKREETEE, *nature* or *first principle*, under the emblem of a female, engendering the world with his MAYA, or supernatural power. See GEETA, p. 142.

* See the words Brahme and Brahma particularly explained in the Asiat. Research. vol. I. p. 242. See also Holwell, part 2. p. 7: and Dow's Prefatory Dissertation, vol. I. p. 41.

the Brahmin is to read, to pray, and to instruct. From his arms Brahma created the Khetree, or Katteri, enduing the latter with STRENGTH, as the former with wisdom, the office of the Katteri is therefore to draw the bow, to fight, and to govern. From his belly and thighs he produced the tribe of Bice, whose function in society is to procure NOURISHMENT, and to provide the necessaries of life, by the honourable occupation of agriculture, and by the lucrative pursuits of commerce. From his feet sprang the tribe of Sooder, whose duty is SUBJECTION, to labour, to serve, to travel. A fifth adventitious tribe called BURRUN SUNKER was afterwards produced, and of this tribe the race of mechanics and petty dealers, who are esteemed of less account, as administering rather to the luxuries than to the necessities of life, are composed; forming as many separate casts as there are trades or occupations to be exercised by its members.

After perusing this whimsical description of the original formation of human beings, after a full and candid consideration of this ingenious, but extravagant, fiction, by which the primitive division of the nation into tribes is allegorically accounted for, and the premeditated subordination of one cast to the other, as well as the subjection of all to that of the Brahminical hierarchy is artfully and irresistibly enforced upon all the inhabitants of a great empire, let us for a moment direct our attention to the concise but majestic account of the creation of man in the Mosaical history. And GOD *said*, that is, the first omnipotent hypostasis, the Αυτο Θεος, to the divine Λογος, his son by an eternal generation, and to the πνευμα Θεȣ that emanated from both, in a manner that must ever of necessity be incomprehensible to finite beings; to these his holy coadjutors in the great work of creation,* joined in solemn consultation upon so

* To this doctrine of three hypostases fabricating the world, there is a most wonderful and decisive attestation afforded in Ecclesiastes xii. 1. *Remember thy* CREATORS, for so it stands in the original Hebrew; which passage is thus translated, and commented upon by the great

grand an event as the formation of beings endowed with reason and intellect, after the eternal similitude, that supreme and holy hypostasis *said, let* US *make* MAN *in* OUR *image after* OUR *likeness.* In another place I have attempted to prove, that in the interpretation above given of this passage, sense can alone be made of it; and thus understood, in the emphatic repetition of OUR there is a marked propriety. The creative Wisdom did not say, as of other animals, and as the Egyptians proved they believed, when their base cosmogony represented man as formed of the mud of the Nile, rendered prolific by the heat of the sun, *let the earth bring forth* MAN; no: though recorded afterwards to have been formed *of the dust of the ground,* an expression from which *possibly* Egyptian atheism stole that magnificent conception; this prefatory pause before the creation of man, argued, as is judiciously remarked by Patrick, that the exertion of a far greater power and skill was employed in producing a creature of such superior beauty, genius, and majesty.*

To assert, as the Jews assert, that the Deity in this speech addressed himself to his counsel of angels, *in whose image* GOD *did* NOT *make man,* but in his own; or, that he used the language of earthly sovereigns at that remote period, when, as the learned commentator last cited has proved, that mode of expression was not in use, is to be guilty of the grossest evasion and the most flagrant absurdity. *So God created* MAN *in his own image: in the image of God created he* HIM: *male and female created he* THEM. The repetition of the word *created,* three times in this verse, may possibly have or have not a mysterious meaning; but, undoubtedly, that of the words, *in his own image, and in the image of God,* was intended strongly and deeply to inculcate upon the Hebrew race, an idea of

Michaelis; *memento Creatorum tuorum;* hoc est, TRIUNIUS DEI qui te creavit. To this testimony of the Hebrew patriarchs and prophets being acquainted with a threefold distinction in the divine nature, may be added that of Isaiah, xliv. 24. *Thus saith the Lord thy* REDEEMERS.

* Patrick on Genesis, i. 26.

the distinguished and exalted dignity of the human nature, and as an eternal memento that they should never degrade that nature, by paying adoration and offering incense to any god, but HIM who formed *man in his* OWN IMAGE. The latter part of this verse demands more particular notice, because EVE is considered in it as already formed, when *apparently* her creation does not take place till the ensuing chapter, and because upon it, or upon traditions consonant to it, many absurd rabbinical and pagan chimeras have been grafted. The obvious sense of the passage is, that God created at once the two sexes of which the human race consists, as he did those of all other animal and vegetable tribes; for even herbs and plants have, as is well known to the botanist, their sexual distinctions, *bearing and yielding seed.* God in fact formed the *female*, though after some short interval, and after the deep sleep which in the following chapter is described to have fallen upon Adam, on the very same day, the sixth day, on which he formed the *male;* notwithstanding, therefore, the particular account of the mode of her formation be not recorded by the divine historian till the second chapter of this book, from the verse immediately following, in which it is said *God blessed* THEM, *and God said unto* THEM, *Be fruitful, and multiply, and replenish the earth,** it is evident that the same auspicious day gave birth to the two great progenitors of the human race.

Grossly misconceiving, and palpably misrepresenting, in this, as in many other instances, the genuine sense of their own Scriptures, the Jewish Rabbins have founded upon this passage an absurd notion that Adam was originally formed with two bodies, male on one side, and female on the other, joined together, as some say, at the back, or as others, by their sides, which God separated. Such reveries are unpardonable in those who ought more judiciously to have interpreted the manifest sense of the Mosaic history; but, in

* Genesis, i. 28.

respect to Pagan writers, we can scarcely wonder that from this Hebrew source, traditional, or written, they should have formed, as they doubtless did, such corrupted and multiplied fictions of monsters, half human, half divine; and sometimes half human, half bestial, as load the pages of those of their works that relate to the cosmogony: as little can it be doubted but that all the fabulous tales of the Androgynes, in ancient mythology, warring against the gods, in the insolence arising from their possessing in one round, or perfect form, the two sexes, and consequently combining in that form the whole vigour of the human system, originally sprang. Even of the famous notion propagated so widely through India and Greece, that the Deity himself was ἀρρενοθηλυς, or male and female, this probably was the central source: nor can I avoid conjecturing that, as the woman is here asserted to be formed out of the *side*, as the word translated *rib* also signifies, of the man, from the same source the Indians have borrowed their doctrine of the four sons of Brahma, or the four great tribes, denominated after their respective heads Brahma, Khetteri, Bice, and Sooder, proceeding from his mouth or head, his arms, his belly, and his feet. There is one cogent reason for my indulging this conjecture, which is, that the Rabbins themselves, possibly from obscure tradition, urge that Eve was taken out of the *side of Adam*, to denote *her equality with her husband*, which would not have been established upon such solid ground, had she been taken from the superior, or inferior parts of his body.*

It will serve decisively to mark the very early and intimate affinity subsisting between the Hindoos and the Egyptians, if we take notice in this place of the similar division of the latter into various subordinate classes, and of the distinguishing and immemorial customs observed by them, so nearly corresponding to those recorded

* The reader for better information on these fanciful opinions of the Rabbies, may consult Calmet, Basnage, and other historians of Jewish rites, doctrines, and manners.

in the Indian Antiquities, as familiar to the former. The ancient sons of Mizraim, a name by which they are constantly denominated in Scripture, according to Herodotus,* were divided into seven, but, according to Diodorus Siculus,† into five great tribes, hardly at all dissimilar, in regard to the occupations assigned to them, from those of Hindostan. The first in eminence of these was the sacred and sacerdotal tribe, who were maintained at the public charge, a third part of the produce of the lands of Egypt being allotted for the support of them, their families, and the splendour of public worship. The second tribe, like that of India, was composed of soldiers, who were absolutely forbidden to follow any mechanic employ. The third order of men consisted, if Diodorus may be credited, of shepherds; but as Herodotus particularly specifies traders, by the name καπηλοι (literally wine merchants) they may be considered as the commercial tribe of Egypt, answering to the Banians of India. The fourth tribe was formed of husbandmen, in whose rural occupation the shepherds may, without violating propriety, be numbered. And the tribe consisting of artificers, seems accurately to correspond with the Indian inferior tribe of Burrunsunker. Towards the commencement of the book just cited, Herodotus says, that the various ablutions, purifications, and ceremoniou ssuperstitions performed by the priests of Egypt were infinite; that, in particular, they constantly bathed themselves in cold water, twice by day, and twice by night; that they shaved all the parts of the body once in three days, using circumcision for the sake of cleanliness; and, for the same reason, went clothed in garments of linen kept constantly pure and white. With respect to the inferior orders, the similitude between the Hindoos and Egyptians is not less remarkable, although I shall reserve for another place ‡ the full enumeration of the curious particulars. It will be

* Herod. lib. 2. p. 174. † Diod. Sic. lib. 1. p. 67, 68.

‡ The last volume of the Indian Antiquities, which describes the laws, government, and manners of the ancient, as well as modern Indians.

sufficient to mention here that, in point of cleanliness, it was an inviolable rule among both nations that the vessels from which they ate or drank, should be thoroughly cleansed after every meal, which is still rigidly observed in India, where, to avoid pollution, the earthen dish or vase is often broken after use; and that they were alike forbidden to deviate from the line of occupation in which their ancestors were engaged, so that the individuals of the second tribe were still soldiers; those of the third still traders, or shepherds; those of the fourth still husbandmen; and those of the fifth still artificers and mechanics, through an hundred generations.

On this division of the Hindoos into four great tribes, Mr. Halhed judiciously remarks, that these four classes comprehend the four principal divisions of a well regulated state. Judicious as it is, however, the impartiality I profess compels me to add the sentiments, relative to this point of conduct in their great legislator, of the ingenious Abbé Raynal, who, upon the division of the Hindoos above recited, into four separate casts, each superior to the other in rank, and between which an insurmountable barrier is placed by the laws of the Vedas: upon the high and particular distinction paid to the Brahmin in this division: and upon this attempt to rivet on the inferior ranks the chains of subjection in the name of the Deity, makes the following judicious reflections: That the whole system betrays marks of the deepest political corruption, and exhibits a specimen of the most ancient system of slavery; that this legal restriction of the exercise of the different arts and occupations to particular families, and this sanctioning of such restriction by the solemn obligations of religion, are so far from being arguments of the profound policy of a great legislator, that, on the contrary, they display a most contracted system of policy, and a criminal inattention in that legislator, to the general good of the nation; since it could not but ultimately tend to produce the worst effects; to crush in embryo the dawning efforts of science, to obstruct the growing

progress of new discoveries, and to damp the kindling ardour of emulation: that the very consequence reasonably to be dreaded from an arrangement so injudicious, and from a restriction so severe, has in fact resulted: the Hindoos, from all appearances, have made no improvements in knowledge, and no advances in industry, since the period when their great legislator flourished. But while the Abbé makes these reflections, he candidly acknowledges this circumstance to be a convincing proof both of their *great* antiquity,* and of their *early* civilization.

It is then the history of those four tribes, and of the various revolutions that have befallen their empire, through a period of many thousand years, as far as the events productive of those revolutions are known or can be traced, that I have undertaken to present to the indulgent public: the history of the most innocent and inoffensive people upon earth, the probable descendants of the righteous Shem, whose food is rice,† whose simple beverage is the water of the Ganges; whose bed is the luxuriant herbage of the ground, whose covering is the expanse of heaven: a people patient under suffering, hospitable in the highest degree to their own species, and overflowing with the most amiable benevolence even to the brute creation: a people, of which the first grand division, as has been already amply shewn, is absorbed in the delightful researches of theology and philosophy; whose second tribe is distinguished by their wisdom in governing, as well as for that fortitude in arms, which, if courage, unattended with the military skill of Europeans, could have obtained them success against their various invaders, would

* Cette observation suffira pour donner une idée de l'Antiquité de ce peuple, qui n'a rien ajouté à ses connoissances, depuis une époque qui paroit la plus ancienne du monde. Histoire Philosophique & Politique par Abbé Raynal, tome i. p. 40. Quarto edit. à Geneve, 1775.

† I would be understood to speak *generally*, and always with exception to the military or Kattri tribe, who, as is naturally to be supposed of a race trained to war, have on many occasions exhibited traits of a very different character; and in the field are often in the highest degree sanguinary and ferocious.

certainly have insured it to them: whose third order is equally eminent in the species of useful knowledge allotted for the acquisition of their cast; and whose fourth division is distinguished by their humility, their honesty, and their industry. These are the objects of my investigation: and happy, thrice happy, should I think myself in pursuing that investigation, if the developement of the intricate and diversified volume of their history did not in every page disclose scenes of the blackest perfidy, and the most unrelenting barbarity, in the successive PERSIAN, ARABIAN, and TARTAR conquerors of this blameless people; whose aggravated cruelty all their submission could never appease, and whose unbounded extortions, till the reign of the lenient Akber, the surrender of all their treasures could never fully satisfy.

CHAPTER II.

The Chronology *of the* Brahmins *extensively considered — The Doctrine of the Indian* Yugs, *or four grand Periods of the World's Existence; viz. the* Satya Yug—*the* Treta Yug—*the* Dwapar Yug—*and the* Cali Yug—*Their Astronomical Calculations examined, and demonstrated to be fallacious—The romantic Dreams of Astronomical Mythology asserted, in every Period of the ancient World, to have perplexed all genuine Chronology, and to have obscured all serious History—The Assertion proved in a Retrospect towards the early History of the* Chaldeans, *the* Egyptians, *the* Persians, *and the* Indians—*The Result of the whole Argument is, that on a System of Computation so baseless and so precarious, no Hypothesis subversive of the* Mosaic History *and the* Hebrew Chronology, can *possibly be erected.*

Before we proceed farther in the pages of this history, it is necessary that we should have an accurate conception of the Chronology of the Hindoos; if the term *accurate* may be applied to the conception of things bordering upon infinity. According to their romantic ideas, the age of the world is divided into four grand periods, of astonishing duration, which they call Yugs, or distinct ages. The first is the Satya Yug, that is, the age of *purity*. The Satya Yug is said to have lasted 3,200,000 years, and the Hindoos affirm that the life of man, during that period, was extended to 100,000 years, and that his stature was twenty-one cubits. The second is called the Treta Yug, that is, the age in which one third part of mankind became reprobate. Treta is a Sanscreet word, signifying *three*, which affords us a clue for unravelling the

whole mystery of these amazing periods, as descriptive of the several stages of purity and vice, which distinguished mankind in the vast and successive æras of their fancied existence. The Treta Yug they suppose to have consisted of 2,400,000 years, and that men in this period lived to the age of 10,000 years. The third is styled the DWAPAR YUG, or the age in which one half of the human race became depraved. The duration of the Dwapar Yug is stated at 1,600,000 years, and in this Yug the life of man was reduced to 1000 years. The name of the fourth, or present age, is CALI YUG, in which all mankind are depraved, or rather *lessened*, for that, Mr. Halhed contends, is the true import of cali, or callee. Mr. Holwell, however, seems rather inclined to retain the former interpretation, and urges, in corroboration of his opinion, that while he sate as Governor General at the head of the judicial court of Cutcherry at Calcutta, he had often heard the most atrocious murders confessed, and an extenuation of their guilt attempted by the culprits' pleading that this was the period of the CALI YUG. The Hindoos suppose that the Cali Yug is ordained to subsist for the space of 400,000 years, of which they say 5000 years are already past; and judiciously remark, that in this revolution the life of man is reduced to the very contracted period of 100 years. The Brahmins affirm, that in this *fallen age*, every species of wickedness shall more and more abound; and, owing to that wickedness, before the expiration of it, (let posterity tremble!) the stature of man shall be so reduced that he will not be able to pluck a berengelah, that is, the *egg-plant*, without the assistance of an hooked stick. The aggregate of the several periods during which the four Yugs are said to have revolved, according to the most moderate computation, as inserted by Sir William Jones in the Asiatic Researches, whose account, in regard to the total amount of the calculation, materially varies from that of the two former writers,

constitutes the extravagant sum of four million, three hundred, and twenty thousand years.*

"Computation," exclaims an admired writer of the present age, "is lost, and conjecture overwhelmed, in the attempt to adjust such astonishing spaces of time, to our own confined notion of the world's epoch; to such antiquity the Mosaic creation is but as yesterday; and to such ages the life of Methuselah is no more than a span!" In this emphatic language, exclaims or rather *did* exclaim, in the ardour of youth and genius, and on a transient examination only of the Hindoo chronology, the author to whom the public is indebted for the elegant translation of THE CODE OF HINDOO LAWS; a work which, whether we consider the age of the writer, who, when he undertook that arduous work, had scarcely reached manhood, or consider the deep Oriental erudition displayed in the preface prefixed to the Code, does equal honour to the age, and the writer. On a more minute investigation of the principles upon which that chronology is founded, an investigation which the hurry of the moment in which it was composed, and the urgency of the public demand for a genuine system of INDIAN JURISPRUDENCE, united to prevent his making at the time, Mr. HALHED has long been convinced of the futility of the claims to unfathomable antiquity of the presumptuous Brahmin. It is by his immediate request that I announce to the public, his altered sentiments on this point, and that public will not fail to honour, with increased respect, an author who thus voluntarily stands forth in so decided and manly a manner, to prevent the farther circulation of a dangerous error, under the sanction of a name equally dear to literature and to virtue. Every sceptical hypothesis, therefore, raised upon this basis of conjecture, relative to the immense period of the world's duration, and the antiquity of the Indian nation, promulged in that volume, of necessity falls to the ground; and one source of infidelity is thus happily an-

* See Asiatic Researches, vol. I. p. 237.

nihilated. That the period of the duration of the lives of men at the end of the Dwapar Yug, when they were reduced to 1000 years, *that* period which in their opinion immediately precedes the Cali, or present age, should tally so very exactly with the Mosaic æra of the ante-diluvians, and that the limit of their lives in the Cali age itself should be so uniformly proportionate to that assigned by Moses to the first race of men after that dreadful event, these are circumstances, which are so far from being subversive of the truth of the Mosaic history, that they at once afford decisive testimony to its verity, and strongly corroborate the preceding assertion, that those writings derive a wonderful addition of strength and lustre from their coincidence with the ancient prtriarchal traditions so widely diffused over all the Oriental world.

In fact, the doctrine of the Yugs, and the whole system of Brahminical chronology, is carried to such an extent as to exceed all the bounds of human belief, while they mock the airy flight of imagination itself, whether soaring in the pride of opinion, or heated by the ardour of superstition. That system seems calculated for quite another order of beings; for DEVATAS who range through infinite space, and not for MAN, who grovels upon the earth. For is that system indeed bounded even by the extended period of 4,320,000 years? No; nor yet by forty millions of such years. "The comprehensive mind of an Indian chronologist knows no bounds. This incredible aggregate multiplied by *seventy-one* is the period in which every MENU is believed to preside over the world; but the reigns of fourteen Menus are only a single day of Brahma, and fifty of such days are elapsed since the creation of the world."* The learned relater of this fable justly stamps it with the title of puerility, and is inclined to believe the whole an astronomical riddle, alluding to the apparent revolutions of the fixed stars, of which the Brahmins wish to make an impenetrable mystery. In my humble opinion,

* Sir W. Jones in Asiat. Research. vol. I. p. 237.

there seems to be very little difference between assertions, wild and extravagant as these, and avowing at once the eternity of the world; for the reader is yet to be informed, that even when the Cali Yug hath rolled through its vast circuit of 400,000 years, the Satya Yug will commence again, and thus these four grand periods will revolve in continual rotation. This very doctrine of the earth's undergoing certain successive dissolutions and renovations was, according to Plato in his Timæus, another principle holden and taught by the Egyptians; and they believed those revolutions to be effected by the alternate violence of water and fire. From the Egyptians this doctrine descended to the Arabian philosophers and astronomers; for, according to Dr. Pocock, in a note upon Abulfaragius, they contended that after a complete period of the mundane system had taken place, the present race of men and animals would become extinct; that new inhabitants of this earth, and new arrangements in the order of nature, would then succeed; and that similar extinctions and creations after every such revolving period would follow each other in an eternal circle.* Another considerable objection, urged by Sir W. Jones against the Indian Yugs, is, that they are too regular and too artificial to be admitted as natural or probable. "Men do not become reprobate in a geometrical progression, or at the termination of regular and stated periods; yet, so well proportioned are those Yugs, that even the length of human life is diminished as they advance from 100,000 years in a subdecuple ratio; and as the number of principal Avatars in each decreases *arithmetically* from four, so the number of years in each increases *geometrically*; and altogether constitute the extravagant sum above mentioned."†

If after these remarks from so judicious a writer, any reflections of my own might be obtruded with impunity, I should humbly offer

* Vide Pocockii Specimen Hist. Arab. p. 145. Edit. Oxoniæ, 1650.

† Asiatic Researches, vol. I. p. 237, ubi supra.

the *following*, as explanatory of those chronological delusions into which not only the Indians, but almost all other ancient nations have fallen. It appears to me that the source of these extensive errors in calculation, and the origin of these vast periods, on more minute examination, will be found to exist in two distinct causes; SUPERSTITION and ASTRONOMY. With respect to the former cause it may justly be remarked, that in every instance of human investigation into infinite subjects, in which we cannot have the aid of divine revelation to assist our researches, all our speculations must ever be involved in a labyrinth of difficulties. In contemplating the operations of beings infinitely removed from us, and in exploring the wonders of a state wisely concealed from the knowledge of mortals, we naturally run into the most outrageous violations of reason and probability. We apply the measure of time and the proportions of form to that which is, in its own nature, eternal and immaterial, and we allot the senses and passions of men to beings who cannot possibly have occasion for them. It is indeed the inevitable mistake of the human mind to carry the imperfections which cleave to humanity into the idea it forms of the divinity. We are overwhelmed amidst the immensity of our conceptions, and persisting to affix finite ideas to infinite objects, at the same time heedless that eternity cannot be partitioned out into intervals, we assign for a day of the Almighty a period of a million of years, and we think that we magnify his power by uttering this absurd jargon. It must be acknowledged, indeed, that in the Holy Scriptures the Supreme Deity is often represented as invested with the form, and as agitated by the passions, of men; the Eternal, whom no line can circumscribe, nor period bound, sometimes condescends to speak of himself in a manner with strictness only appropriate to temporal and finite beings; but all this is done in pure compassion to the weakness of our limited comprehension, and we should be exceedingly cautious not to mis-

take the language of occasional parable and similitude, intended as an accommodation to weak human intellects, for solemn asseveration, and decisive avowal.

To give a striking proof of the possibility of such gross perversion, as this alluded to, of allegorical passages occurring in those writings.—Suidas, who has preserved for posterity so many valuable fragments of antiquity, mentions the history of an old Tuscan writer,* in which God is said to have spent *six thousand* years, or chilliads, in creating the world : and it is very remarkable that in this history a successive production of objects and animals takes place in precisely the same order as described by Moses. If we advert to that text of holy writ which affirms that with the Deity a thousand years are AS one day, we shall be not a little surprised at the similarity of the relation, SIX being the exact number of days assigned by Moses for the accomplishment of that event, and shall be induced to conclude that this Tuscan writer, at least, was no stranger to the Mosaic cosmogony. The warm fancy of an Arabian, or Persian, writer, who should learn from patriarchal tradition, or read in the sacred volumes, that with the Deity a thousand years are as one day, would still more easily mistake the obvious allegorical meaning of the expression than the temperate genius of an Italian. The glowing enthusiasm of an Asiatic imagination would soon improve, and enlarge, an idea of this nature ; and convert a figurative mode of expression, into an absolute assertion. In some misconception of a similar kind, fabricated at first by indiscreet zeal, and propagated from age to age by obedient bigotry, or blind credulity, has this error in all probability originated. The human day, and the imagined day of the Deity, have been blended together ; celestial and terrestrial computation has been confounded.

With respect to the latter science, it is notorious that the calculations of ASTRONOMERS have in every age perplexed all genuine

* See Suidas in voce Τυρρηνια.

chronology. As the CHALDEANS were doubtless the first practical proficients in astronomy, a science which, from their situation under a serene sky, and amidst the beautiful and extensive plains which they inhabited, they were naturally led to cultivate with persevering assiduity, so they far exceeded all nations of the earth, at that time known, in the wildness of their conjectures, and in the extent of their calculations. The accounts of Berosus, the historian of that ancient empire, or rather those of his commentators, extend the lives and reigns of their first monarchs through a period of many myriads of years; but the Chaldean term, SARI, which Abydenus, one of those commentators, and after him others, interpreted to mean 3,600 years, is explained by Alexander Polyhistor, a later and more accurate commentator, to signify only 3,600 days.* Thus the period of ten SARI, during which Alorus, the first king, is said to have reigned, is reduced from an incredible to a very credible interval, and the whole system of the Chaldean chronology is proved not only to agree with tolerable exactness with the Mosaic æra, but by the very conformity of its great outlines, even to support its authenticity. According to Pliny, the same Chaldeans boasted that they had a regular series of astronomical observations engraved† upon bricks, for the space of 720 thousand years: (for thus, from what follows, it is evident that Pliny originally wrote the passage, though the M for one thousand, in transcription has been omitted,) but it has been proved by Dr. Jackson, in a long series of quotations from the most respectable authors who have written upon the Chaldean antiquities, that this amazing calculation by *years* should have also been made by *days:* and that Abydenus, who copied the public records kept at Babylon, improperly interpreted the Chaldaic word JOMIN, signifying days in the sense of *years;* which interpretation

* Alexander Polyhistor, apud Syncelli Chronograph. p. 32.

† Consult on this particular subject the General Dictionary under the article Babylon, and the learned notes on that article.

that term, as well as the Hebrew word JAMIN will also bear.* By this way of reckoning, so much more consistent with reason and nature, the immense fabric of those delusive computations, which were formerly urged with such vehemence against the Jewish records, and latterly with such malignity against Christianity, is totally overturned.

Those haughty and presumptuous assertors of their unrivalled antiquity beyond all the nations of the old world, the EGYPTIANS, it is evident, both from Diodorus Siculus† and the learned Varro,‡ quoted by Lactantius, in the most early periods of their empire, computed time by the lunar year of thirty days; a circumstance which swelled their chronology to a prodigious and incredible amount. It was natural enough, indeed, for the first inhabitants of the earth to calculate by the lunar year; and as the subject is of high importance in this investigation, I shall proceed to consider the origin and reason of that mode of computation in those remote æras with some degree of attention.

Attracted by the beauty, and incited by the proximity, of the MOON, they were early engaged in contemplating the particular revolutions of that orb, and by those revolutions, and the vicissitudes she underwent, first learned to portion out their time, and regulate the concerns of life. When they came to be better acquainted with her influence upon this globe of earth and water, and considered the benefits they received from her light and motion, they exalted her into a divinity; they instituted festivals to her honour; they offered oblations to her; and more particularly at the period when she commenced her monthly career; and when her orbit reached its full expansion of splendour, their joy broke forth in tumultuous acclamations; in the clangor of wild music; and in songs of triumph.

* See Dr. Jackson's Chronolog. Antiq. vol. I. p. 200.

† Diodori Siculi lib. 1. p. 30. Edit. Rhodomanni.

‡ Varro apud Lactantius de Origine Erroris, lib. 2. sect. 12.

In that infant state of astronomical knowledge, before more accurate observations had made mankind acquainted with the great *solar* period, they considered thirty of that planet's diurnal revolutions as a complete year, and by this method of computation were doubtless reckoned the extensive æras assigned to the lives of the first mortals, exalted to the rank of gods, and the astonishing periods of the reigns of the most ancient sovereigns, denominated demi-gods and heroes. I say the *first* mortals, and the *most ancient* sovereigns, because it is to the race of gods and demi-gods particularly that I would confine this interpretation, and to those nations only, who, like the Hindoos, compute the age of man by hundreds, fifties, and tens, of thousands of years. I am perfectly aware that the application of this rule of measuring ancient time to less extended periods, as by way of explanation of the thousand years which the ante-diluvians are, in Scripture, said to have lived, would be the occasion of numerous and endless absurdities; reducing the whole intervening space, from the creation of the world down to the flood, to a period considerably under two hundred years; and the life of Methuselah himself to a term far short of that which is frequently attained to by the present race of mortals. The circumstance of the extended lives of the ante-diluvians will be afterwards explained upon very different principles. But the *greater part* of these sovereigns who are asserted to have reigned through such amazing periods, had no pretensions whatever to the claim of mortal birth. They were degraded by those who meant to do them honour. Instead of being *deified men*, many of them were *divinities humanized*. They were, in reality, of undoubted *celestial* origin; and if they had any influence or predominance *at all* over terrestrial kingdoms, it was only of that nature which the mad propagators of the exploded science of astrology absurdly supposed the revolving orbs to exert from their lofty stations in the regions of the sky.

As science improved, and ages revolved, mankind gradually ex-

tended their view to the consideration of the motions of the other great luminaries of heaven, and particularly to those of the greatest and brightest of all, the SUN, whose extensive circuit through the heavens, from diligent and repeated observations, they found was not accomplished in a less space than twelve entire revolutions of the lunar orb. His tract, or at least his imagined tract, through the regions of æther, they marked upon a broad circle, which they denominated the celestial zodiac, and divided that circle into twelve parts, distinguishing them by the names of the twelve signs or constellations, through which they observed the solar orb to pass in the period of his annual revolution: these twelve portions, or signs, they again subdivided into 360 degrees, the number of the days of the ancient year; reckoning each sign for a month, and each degree for a day. This annual computation of time formed the LUNISOLAR year of the ancients. The lunisolar year, however, was afterwards found to fall short of the true equinoctial year by five days and a quarter, which were therefore, in succeeding periods, intercalated, and constituted the true SOLAR or tropical year. But there remains to this day one striking proof how minutely the nations of the East, and particularly that nation whose history I record, attended to the various motions and vicissitudes of the MOON, of which, as it corroborates a foregoing assertion, I cannot omit taking notice. Mr. Costard, on the astronomy of the Arabians, informs us, that the Orientals have feigned another broad circle in the heavens, not taken notice of by the European, but much celebrated by all the Arabian, astronomers. It is divided into twenty-eight unequal parts, corresponding with the moon's course, and therefore called the *mansions of the moon,* because the moon was observed by them to be in or near one or other of these parts, or constellations, every night. Mr. Costard adds, that as this division is different from any thing among the Greeks, it seems not to have been borrowed from them, and therefore may be looked

upon as the remains *of very old astronomy*. I offer it as an humble conjecture only, that this custom of forming what may be called a lunar zodiac originated in India, which *some* authors have supposed to be the parent country of astronomy: for though the Chaldeans, as well as the Arabians, used the same circle, that the Hindoo astronomers could not have *borrowed* the custom from them, there is this decisive evidence; that the lunar zodiac of India ever did, and now does, consist of only *twenty-seven* constellations, the particular names of which are enumerated by Mr. Costard,* and in the Ayeen Akbery. This author also is decidedly of opinion that the first computations were made by the revolutions of the moon, her motions being the swiftest of all the heavenly bodies, and that her very name is an attestation of it, which he derives from *mene*, a Chaldee term signifying numerare, supputare, whence doubtless her Greek appellation of Μηνη, and whence probably our English term moon and month.†

Incessantly occupied in the investigation of those profound astronomical principia, which afford the sublimest instruction and delight to minds capable of comprehending them, and which seize upon all the faculties of the soul with resistless force, often to the total exclusion of other considerations, the priests of BRAHMA and OSIRIS remained absorbed in the profundity of their celestial calculations, and paid far less attention to the history and concerns of the sphere which they inhabited, than of those that rolled around and above them. In servile adulation of the kings who entertained them splendidly in their palaces, who allowed them ample pensions from their treasuries, and who frequently joined them in their useful and laborious researches, whence astronomy has in all ages been denominated a *royal science*, those abject philosophers distinguished the celestial orbs by the names of the potent earthly mo-

* See Costard's Astron. p. 51, and Ayeen Akbery, Vol. II. p. 18.

† Costard's Astronomy, p. 199.

narchs, their patrons and protectors; and the immense periods which the planets Jupiter and Saturn took to complete their *real*, and the fixed stars their *apparent*, revolutions in the heavens, were called the reign of Saturn, and the reign of Jupiter, and other sidereal deities, who thus enjoyed the high honour of being equally monarchs on earth and in the heavens. From this fountain flowed the long series of Manetho's fabulous dynasties of Egyptian kings, and in India of those boasted genealogies mentioned in Volume II. of the Asiatic Researches, at the head of which are placed the SUN and MOON, and thence their progeny, denominated SU'RYA-BANS and CHANDRA-BANS. But the ancients not only gave the names of earthly sovereigns to the planets, they distinguished even the months by the appellation of some favourite hero, whom they considered as the genius presiding over it. Thus in Egypt, *Thoth*, by whom the elder Hermes was meant, was the name of the first month, and *Mesori*, another word for Mizraim, of the last: and thus in India, Mr. Wilkins informs us, there are twelve ADEETYAS, or genii, presiding over the twelve months, the first of which, in the order they are enumerated by him, is *Varuna*, and the last is *Veeshnu* himself. Hence Creeshna in the Geeta says, "Among the Adeetyas I am Veeshnu; and the radiant Ravee among the stars."* The custom was, in after ages, followed by the Romans; for we are informed by Macrobius,† that Numa having divided the year into twelve months, Jano duodecim aras dedicabat, consecrated twelve altars, as well in honour of Janus as to represent the twelve months, with their tutelary deities. In the English names of the months of July and August, we still discover the vestiges of this sidereal superstition and servile flattery.

Astronomy and Chronology are sister sciences. It will, therefore, be exceedingly instructive, as well as highly illustrative of the

* See Geeta, p. 85, and note upon the passage, p. 144.

† Macrobii Saturnalia, lib. 1. p. 159.

subject concerning which we treat, to observe how deeply these astronomical speculations blended themselves in the principal transactions of ancient times. Among innumerable instances that might be brought in proof of this assertion from the page of early history, I shall select only a few that appear to me most remarkable, and give them in historical order, from that of the Chaldeans, or Assyrians; the Egyptians; the Persians; and the Indians. The instances, thus selected, will be immediately in point, since they will at once establish what has been remarked concerning the lunisolar year, founded upon the original calculation of time by the course of the *moon*, and will in general distinguish the period when the true solar year came to be adopted, instead of that called thence lunisolar.

In the extensive and beautiful plains of Chaldea, it has been already observed, astronomy probably had its birth, and on those plains were, doubtless, made the first accurate celestial observations. According to Pliny, Belus inventor fuit sideralis scientiæ:* that is, Belus first collected together and reduced into a system the scattered observations of the astronomers of his own time, and those handed down by tradition from the preceding race; for there can be little doubt but that mankind, struck with the beauty and splendour of the heavenly host, soon after the creation began to count their number, and observe their motions. The conjecture is by no means improbable, that *one* intention of erecting the tower of Babel was with a view to render it, what the pyramids in succeeding ages were, doubtless, in part intended to be, a stupendous theatre for such astronomical observations, as their limited acquaintance with the principles of that science enabled them to make. The walls of the great Babylon itself are said, by Diodorus Siculus,† to have been built by Semiramis of the extent of 360 furlongs, to mark

* Plinii Nat. Hist. lib. 1. cap. 26. Aldi edit.

† Diod. Sic. Vol. I. p. 120, 122. Rhodomanni.

the number of the days of the ancient year. If that historian may be credited, the *future invader of India* employed in that vast undertaking no less than two millions of men, and one stadium was erected every day, till the whole was completed within the period of that year, the length of which the measure of their circumference was intended to represent. In justice to Diodorus, it should be added, that he professes to take this account from Ctesias, for he subjoins that in Alexander's time, those walls were in circuit 365 furlongs, a circumstance, however, which by no means destroys the credit of the first account. It rather serves as an additional testimony of the great attention of the ancients to astronomical speculations, since it is most probable, that when they had more accurately fixed the duration of the solar year, the circuit of the city walls was, by some succeeding sovereign, enlarged, that the number of furlongs might exactly correspond with the aggregate amount of the days added to the ancient year.

The probable purpose, or at least *one* probable purpose, for which the Egyptian pyramids were constructed, and to which the plain on their summit was applied, as well as the form of those pyramids intended to represent the solar ray, has been already repeatedly noticed. But it would be unpardonable to omit mentioning another splendid monument of their early and deep researches into astronomy, which did equal honour to the magnificence and the science of the nation; I mean, that prodigious circle of wrought gold, a cubit in thickness, and 365 cubits in circumference, which decorated the tomb of Osymandes, and on which were engraved 365 divisions or degrees, according to the days of the improved year. (A proof how early that improvement took place in the Egyptian astronomy, since Osymandes is supposed to be the same with Sesostris.) Upon each of those divisions were marked the heliacal risings and settings of the stars for every day, with the consequent predictions of the

Egyptian astrologers.* This circle, we see, was fixed upon the *tomb* of this monarch, a proof that they carried their sidereal reveries even to the grave; that grave from which the illustrious in virtue and in valour were to ascend into the celestial spheres, or become themselves conspicuous constellations. It is difficult to conceive that Cambyses, the frantic desolator of the venerable temples of Egypt, could carry away from its ravaged metropolis any spoil more richly superb, or more truly valuable, than this. It would be alike unpardonable, were I, in this retrospect on the antiquities of Egypt, to pass over the great colossal statue of Memnon, or rather, I should say, the colossal statue erected by Memnon in honour of the SUN, for thus the best decypherers of the Egyptian mystic theology interpret the passage. Since Pliny† declares it was placed in the temple of Serapis at Thebes, it was probably intended to represent that deity himself, who was a symbol of the *sun in Autumn*,‡ and every morning, on feeling the warm impulsive ray of its bright original in the heavens, this statue, we are told, uttered a vocal sound of salutation. This noble image was dashed to pieces by the same barbarian who plundered the sepulchre of Osymandes. The whole of the annual magnificent festival of Osiris and Isis was in the most pointed manner allusive to the influence of the SUN and MOON upon the earth, but particularly those of the former planet, in cherishing with its vernal warmth the various seeds and grain committed to its bosom, or in ripening with its summer beam the delicious fruits successively produced; and in causing the vicissitudes that distinguished the revolving seasons. To the MOON, or Isis, they were by no means ungrateful for affording, by night, her kindly ray to conduct the mariner, in quest of distant

* See Diod. Sic. lib. 1. p. 44, where the reader will find an ample description of this sepulchre, which, in the magnitude of the stones of which it was constructed, and the ornamental sculptures of men and animals with which it was decorated, appears to have borne a striking resemblance to the Pagodas of India.

† Plinii Nat. Hist. lib. 36, cap. 7.

‡ Savary's Letters on Egypt, Vol. II. p. 346.

commerce, over the boundless ocean, and the benighted traveller over deserts of sand, as little diversified and almost as boundless; as well as her immediate utility in swelling the waters of that sacred river, whose annual inundations were the perpetual and abundant source of plenty. According to Plutarch, de Iside et Osiride, they carried this mistaken notion of the moon's being the efficient cause of the increase of the waters of the Nile to such a length, that they thought the degrees of the elevation of those waters kept pace with the gradual enlargement of her orb; that at Mendes, where the increase is least, they approach the height of seven cubits, equal to the days of her first quarter: that at Memphis, they increased to fourteen cubits, corresponding to the full moon: and that at Elephantina, they swelled to the altitude of twenty-eight cubits, consonant to the number of the days of her revolution. The original and most ancient hieroglyphics of Egypt, and consequently the principia of their alphabet, were the ASTERISMS by which were designated the several signs of the zodiac. Although it has been observed, that the Egyptians in their rapid proficiency in the knowledge of astronomy early intercalated the ancient year, yet they preserved some curious ceremonies in memory of the number of the days of which it originally consisted. One remarkable instance of this is related in Diodorus Siculus: that at the tomb of Osiris, during the days of lamentation, the priests, who were appointed to bewail his death, daily poured out libations of milk from 360 vases,* to denote the days of the primitive year, used in the reign of that monarch. Another still more curious instance, with a beautiful moral apparently contained in it, is recorded by the same author,† viz. that at Acanthe, near Memphis, on the Lybian side of the Nile, it was an ancient immemorial custom, on a particular festival, for 360 priests to fetch water from the Nile, in as many vessels from that river, and then to pour the water into a

* Diod. Sic. lib. 1. p. 26. Rhodomanni. † Ibidem, p. 209.

great receiver perforated at the bottom; by which ceremony they represented both the days of the ancient year, and the ceaseless lapse of irrevocable time. But it is in Persia and in India, where the most splendid luminary of heaven was the never-ceasing object of universal veneration, that we may justly expect to find more than usual vestiges of early astronomical investigation; and in this expectation we shall not be entirely disappointed.

In many of the civil ordinances, in most of the religious ceremonies, and even in the domestic arrangements of the PERSIANS, their early attention to astronomical pursuits, is strikingly displayed; memorials of the number of days composing both the ancient and improved year, are still more distinctly traced; and the period when the reformation of that year took place, is still more accurately marked. Herodotus informs us,* that Cyrus, in his expedition against Babylon, in order to render the river Gyndes fordable for his army, as well as from a curious species of revenge for the loss of one of the consecrated horses of the sun, drowned in the previous attempt to pass that stream, divided it into 360 channels, the number of the degrees through which the sun himself passes in his progress through the zodiac. Diodorus says, that 360 was the number of the royal concubines; and Herodotus adds, that they went every successive night of that year in regular and constant order to share the bed of the sovereign. This circumstance, related by Herodotus, is in a singular manner confirmed by a passage in Scripture; for we read in the book of Esther,† that the concubines of king Ahasuerus went in alternately to the king's house from the apartments of the women.—"In the evening she went, and in the morrow she returned into the second house of the women, to the custody of Shaashgaz, (perhaps Shah Ashgaz) the king's chamberlain, who kept the concubines: she came into the king no more, except the king delighted in her, and that she were called by

* Herodoti lib. 1. 189.

† Esther, chap. ii. v. 15, et seq.

name." It should seem that every thing in the palace of this voluptuous monarch was regulated by sidereal computation, since the luxurious banquet given to his nobles is said to have lasted "one hundred and fourscore days," the half of 360; and SEVEN, the number of the planets, and of the days of the week, was the exact number of days which the succeeding feast to the inferior officers of his household lasted: of the princes of Media and Persia, "which saw the king's face and sate the first in the kingdom;" and of the female attendants which were thought "meet to be given" to the accomplished and beautiful virgin of Judah. The astrologers and soothsayers who swarmed in the palaces of the kings of Persia, were doubtless the cause of this strict attention being paid to the greater and less astronomical periods. But this predilection for certain periods and seasons, venerated by astronomers, because allusive to the solar and lunar revolutions, was by no means confined to the palace of domestic luxury, and the soft seasons of peace and indolence; it accompanied them in more active and turbulent scenes: it predominated amidst the bustle of hostile preparations, and amidst the clangor of arms. No description can be more splendid and animated than that given of the pomp of the Persian monarch in the field of battle by Curtius,* a writer who delighted to display scenes of surpassing splendour, and to record feats of unusual daring. He declares it to have been an immemorial custom among the Persians, for the army never to march before the rising of the sun; that a trumpet, sounding from the king's pavilion, proclaimed the first appearance of its beam, and that a golden image of its orb, inclosed in a circle of crystal, was then displayed in the front of that pavilion, which diffused so wide a splendour that it was seen through the whole camp. Roused to action by the solar ray, when the army began to move, they regulated the order of their march by the motions of their celestial leader. They bore

* See Quinti Curtii lib. 3. cap. 3.

aloft the expressive symbols of his magnificence in bestowing upon them light and heat; and they kept constantly before their eyes a conspicuous memorial of his own diurnal progress through the expanse of heaven. According to the same writer, in the front of the army was carried, upon silver altars, the sacred and eternal fire that was believed to have descended from heaven. Immediately after came the Magi, chanting hymns, after the fashion of their country, in honour of *Mithra*. Then followed 365 youths, representing the days of the reformed year, and clothed in vestments of a bright red or flame colour. To these succeeded the chariot of Jupiter, (that is, *the God of the firmament*, the EENDRA of the Hindoos,) drawn by white horses, and followed by one of exceeding magnitude, and superior beauty, called THE HORSE OF THE SUN, and in a peculiar manner consecrated to that deity. The grooms appointed to train and conduct these horses were arrayed in white garments, and bore in their hands golden rods, or wands, pointed at the end in imitation of the solar ray.*

We come now to consider what evidences remain in INDIA, among their institutions political or sacred, to prove the similar devotion of the Brahmins to a science so generally and so sedulously cultivated throughout all the kingdoms of the East. But here I am entering upon a vast and wide field, a field which has already been in part explored by me, and which must hereafter be yet more amply beaten. A few striking particulars, however, of a kindred nature with those already noticed in Chaldea, Egypt, and Persia, may in this place with propriety be selected. The construction of the most ancient pagodas in a pyramidal form, that is, the form of the solar beam, with the four sides universally placed in such a manner as to front the four cardinal points,† and this ordained by the solemn mandate of religion, is another convincing proof, in addition to those already brought, how deeply that religion and the

* See Quinti Curtii, lib. 3. cap. 4.

† Orme's Indostan, vol. I. p. 178.

science of astronomy were formerly blended in this country. I have already noticed the remarkable circumstance of 360 fountains, the days of the ancient year, before intercalated, being sacred to the moon, at Kehrah, a town in Cashmere; Cashmere, probably the most early residence of the Brahmins, and the theatre of the purest rites of their theology.

In a cave of the same mountainous subah a very singular phænomenon is said, in the Ayeen Akbery,* at certain periods to make its appearance. Though to the last degree absurd and incredible, the relation will yet illustrate the present subject, and what will hereafter occur concerning their computation of time by the bright and dark appearance of the moon's orb. In this cave, says Abul Fazil, is sometimes to be seen an image of ice, called AMERNAUT, which is holden in great veneration. The image makes its appearance after the following manner: two days before the *new moon*, there appears a bubble of ice, which increases in size every day till *the fifteenth day*, at which it is an ell or more in height; then as the moon decreases, the image also gradually diminishes, till at last no vestige of it remains.† All their various OUPOSSES and PURRUPS, that is, fasts and festivals, are regulated by the course and age of the MOON, and thence most of them take their particular denominations. Of their festivals, more peculiarly applicable and illustrative of my ideas, I shall specify two or three, as they stand arranged in Mr. Holwell's very curious, and, I am informed, authentic account of them.‡ The third festival in the order of the Hindoo year is called ARUN SUSTEE, and falls on the sixth day of the new moon in May. It is thus called from ARUN, a word signifying the morning star, and it is dedicated to the goddess Sustee, who presides over generation, and whose worship commences on that day the instant that the morning star appears, or at the dawn of day. The fast of

* Ayeen Akbery, vol. II. p. 159.

† Ayeen Akbery, vol. II. p. 161.

‡ Holwell, part 2. p. 122

Poornemee, the fifth in order, falls on the full moon in May, and is dedicated to Jaggernaut. The duty enjoined upon it is a general washing in the Ganges: and, Mr. Holwell adds, it is almost incredible to think what an immense multitude of every age and sex appears on both sides of the river, throughout its whole course, at one and the same time. The Raas Jattra, or circular dance, which is the nineteenth festival, must by no means be passed over, as I have the strongest reasons for thinking it allusive to that of the planetary train, and the very dance mentioned by Lucian. Some slight glance at the character of Creeshna, the Indian Apollo, has already been taken, and a more ample account of this important personage will be given hereafter. This feast, Mr. Holwell informs us, falls on the full moon in October, and is universally observed through Hindostan; but in a most extraordinary manner at Bindoobund, in commemoration of a miraculous event, which is fabled to have happened in the neighbourhood of that place. A number of virgins having assembled to celebrate in mirth and sport the descent of Kissen (Creeshna), in the height of their joy the god himself appeared among them, and proposed *a dance* to the jocund fair. They objected the want of partners with whom to form that dance: but Creeshna obviated the objection by dividing himself (his rays) into as many portions as there were virgins, and thus every nymph had a Creeshna to attend her in the circular dance. The author of this account has illustrated his narration by an engraving, and, whether by accident or design I cannot say, but the number of the virgins thus engaged is exactly *seven*, while the radiant god himself stands in an easy, disengaged attitude in the *centre* of the engraved table.* The Surya Pooja, or worship of the sun, forms the twenty-fifth festival, and has already been noticed in the Dissertation. The thirty-first fast is the Barani Jattra, concerning which Mr. Holwell says, that having lost the precise meaning and etymology of the term

* See Holwell, part 2. p. 132. The engraving is at the end of the volume.

Barani, he will not attempt an explanation. The reader, however, has been informed, from Mr. Costard's Astronomy, that the second constellation in the Hindoo lunar zodiac is called BARANI, or the horse.* The Barani Jattra is celebrated on the twenty-eighth of the moon in February. "If," says our author, "this fast falls on a Saturday, it is called Barani; if the star *Satoo Bissah* be then on the meridian, it is called Maha, or great Barani: and again, if the star *Soobo Jogue* be in conjunction with Satoo Bissah, it is then called Maha Maha Barani, or the most mighty Barani. These conjunctions are uncertain, but when they happen, it is deemed a most holy day, and that day is observed by universal purification in the Ganges, and worship and offerings to SURYA, or the SUN. It fell out last on the twenty-eighth of February, 1759."† Here we see in the most direct point of view, that there is at this day a fast observed in Hindostan, with solemn sacrifices and purifications, for which there is no other apparent foundation than the rising of a particular star, probably deemed ominous; or its accidental conjunction with other heavenly bodies. Any additional proof of their early attention to astronomy, and accurate observation of the heavenly bodies, after this, will scarcely be necessary; but the account which Bernier gives of the general alarm diffused, and the superstitious practices that took place, during an eclipse, which happened while he attended the court of Aurengzeb, is so curious and interesting, that I cannot use the reader so ill as to pass it over in total silence. This eclipse happened in the year 1666. Bernier was then at Delhi; and upon the day on which it happened ascended the terrace of his house, which was situated near the bank of the Jumnah, whence he beheld an innumerable crowd assembled on either side of the sloping banks of that river, standing in the water as high as the girdle, demurely looking up to the sky, for the purpose of plunging into the stream the instant that they should per-

* See Costard's Astronomy, p. 51.

† Holwell, part 2, p. 173.

ceive the eclipse to commence from the dreadful assault of the celestial dragon. In this great and motley assemblage, people of all ages and degrees promiscuously mingled, from the venerable Brahmin, bending beneath the weight of age, to the child of six years old, and from the exalted Rajah to the meanest mechanic. When at length that eclipse began, they all raised a mighty outcry, and the whole multitude at once plunged entirely into the water; and this immersion they repeated several times: then standing upright in the water, devoutly lifting up their hands and eyes to heaven, muttering certain prayers all the while with great fervour, from time to time taking water in their hands, which they threw up towards the sun, bowing down their heads at intervals very low, and moving and twisting their arms and hands in an hundred different directions; they continued these apish tricks to the very end of the eclipse, when every one throwing a piece of silver to some distance into the water, and giving alms to the Brahmins who attended, they retired, leaving their old apparel behind them, and putting on new vestments, which they had previously brought, and which lay carefully folded up on the adjoining sand. Upon all the sacred rivers throughout Hindostan, he describes the same crowds as assembled, and the same complex ceremonies as taking place. And not only on the rivers these rites took place, but at the various tanks, or reservoirs of sacred water, particularly at the venerated cistern of TANNASAR, where were collected together no fewer than 150,000 worshippers.*

Their minute attention to the motions of the heavenly bodies, and to the predictions of those who pretend to be acquainted with their benign, or malignant influence, has had the effect of incumbering that timid race of people with a most painful and perplexing round of ceremonies, and with the observance of innumerable and disgusting superstitions. Without consulting those adepts in the BOOK

* See Bernier's Voyage to Surat, in the Harleian Collection of Voyages, vol. II. p. 189.

OF FATE EXPANDED IN THE HEAVENS, the Brahmin astrologers, (and it will be remembered that the Brahmins of India, like the Magi of Persia, are the hereditary counsellors of the crown,) no deed of public importance is ever commenced, either in time of profound peace, or in the most imminent emergencies of war. The Brahmins annually compose a curious species of almanac, which, Mr. Scrafton informs us, has not only a planet, or genius, that presides over every day, but *every hour*, *every minute*, and *every action*. Some days are proper for going to the north, others to the south: some days are so entirely taken up by evil spirits, that they abstain from all manner of business; and after all, a clap of thunder at once breaks their resolutions, let the almanac say what it will: so that between the Mahometan and Hindoo astrologers together, one half of the year in India is taken up with unlucky days.* It may appear very impertinent in a serious historical disquisition to introduce the subject which I am about to mention, and much more to form any conclusion from a DIVERSION to which all the orientals are strongly attached. The regal game of CHESS, however, has been thought by Dr. Hyde not unworthy of notice, in a professed treatise concerning the solemn rites of religion: a religion which he would derive from ABRAHAM, and which he inclines to think was the source of the BRAHMANIAN superstition.† I shall doubtless, after such an example, be more readily excused for referring to it for the illustration of the present subject. That able investigator of the Persian theology is decidedly of opinion that this game was of Indian invention, and was introduced into Persia from India in the sixth century, and from Persia to Arabia. The word shah, or king, he affirms, was a term much in use among the Orientals when engaged at this game, and the Europeans, hearing this word

* See Reflections on the Government of Hindostan, by Luke Scrafton, Esq. p. 15. Edit. London, 1770.

† See Hyde's Hist. Religionis Veterum Persarum, vol. II. p. 1. Edit. Sharpe.

often repeated, thence denominated it *Shashsiludium;* or, the game of the king. The great Bochart too descends from more serious investigations in the former part of his Sacred Geography, which he calls PHALEG,* to inform us, that in the game of chess, vulgare illud verbum, *shac mat* Persicâ linguâ sonat *regem esse mortuum*, or that the common saying of shac mat (i. e. *check-mate*) in Persian, signifies that *the king is dead.* Of the very great attachment of the Asiatic sovereigns to this game, in the course of this history I shall have occasion to give some curious examples; but for the present shall only present the reader with a single instance; and as I have now, for a long time, left the pilot of my humble vessel through the dark and dangerous ocean of early Indian mythological history, I shall, on this occasion, use the words of Sir William Jones, "The city called Sharokhia was built by Timur upon the birth of his son, whom he called SHAHROKH, or *check with the rook,* because he was playing at chess, and had just beaten his adversary by that stroke, when he received news of that prince's birth." † Both Timur and Shahrokh were afterwards sovereigns of that country, among whose astronomical mythologists I am strongly of opinion the following most ancient and beautiful fable, though hitherto supposed to be of Egyptian fabrication, though coming to us through the medium of Plutarch, and though disguised by a strange mixture of Egyptian and Grecian names, originated. With the relation of this fable I shall close this long digression, not, I trust, entirely unentertaining, nor totally foreign to the subject upon which I am immediately afterwards about to enter, the PARTICULARS of that wild *chronology* which is so intimately connected with their romantic speculations in *astronomy.* As the only apology I can urge for dwelling thus minutely on so trifling a subject, I have to request the reader to

* See Bochart's Phaleg, lib. 2. cap. 20. p. 229. Edit. quarto, 1674.

† Nadir Shah, p. 25. I need not inform the poetical reader that this gentleman's Poem of CAISSA, or the Game of Chess, is one of the most elegant in the English language.

bear in mind Dr. Hyde's positive assertion, that the game of chess was originally (not of Egyptian, but) of INDIAN invention; and that BHOOD is the Indian MERCURY. Plutarch then informs us, that the goddess Rhea,* having privately lain with and become with child by SATURN,† the SUN, who had discovered the stolen embrace, laid this curse upon her, that she should not be delivered in any month or year: he adds, that MERCURY,‡ having fallen in love with the same goddess, likewise lay with her; and afterwards engaging at a game of CHESS with LUNA, or the MOON, in the course of play, won from her the *seventy-second* part of each day; that out of these winnings he composed *five new days,* which he added to the 360 days of the ancient year: and that, on those five days, RHEA successively brought forth five children, Osiris, Orus, Isis, Typhon, and Nepthe.§ Now as the game of chess is acknowledged on all hands to have been originally the invention of the Indians, who were immemorially observers of the heavenly bodies, it is more than probable from this allegory relative to the intercalation of the ancient year, an allegory afterwards adopted by the Egyptians and Greeks, that the year was *first intercalated* in India; and that the palm of accurate calculation of the length of that year among all the ancient nations is primarily due to the Indians. In

* A personification of the earth, the all bounteous mother, from whose prolific womb, by the command of the great Creator, all temporal blessings *flow*, as the word ρεω implies.

† TIME, a *satu*, from planting; for he first taught agriculture in Italy. It is most singular that the Sanscreet word CALI, or *time*, has the exact signification of the Greek term Κρονος. See Sir W. Jones in Asiat. Research. Vol. I. p. 240.

‡ I have in the text asserted that BHOOD, or BHUDDA, was the MERCURY of India, and in proof of that assertion, I shall here add, that our Wednesday, or the Roman DIES MERCURII, is in India, according to Mr. Halhed, called BOODH-WAR, or the DAY of BOODH. It is necessary, however, that I should inform the reader, that as there were two Tauts, or Mercuries, in Egypt, so it is supposed there have flourished two BOODHS in India, and the former of these is the Deity of the Hindoos.

§ Vide Plutarch. De Iside et Osiride, p. 355. Edit. Ficini: vide etiam. Diod. Sic. lib. 1. p. 50. Edit. Rhodomanni.

decided testimony, indeed, of their superior correctness in this respect, I am enabled from a transmitted manuscript in my possession of Mr. Reuben Burrow, the greatest Oriental astronomer now living, to state precisely the solar year of the Brahmins, which that gentleman, on high authority, asserts to be 365 days, 5 hours, 48 minutes, and 48 seconds, and which, he observes, " is perhaps as exact a determination as any that ever was made."

CHAPTER III.

The early History of the most ancient Nations asserted to be nothing more than the History of the Revolutions of the SUN, MOON, *and* PLANETS,—*the Annals therefore of those Nations not worthy of a Place in serious History—The History of the* SURYA-BANS *and* CHANDRA-BANS *of* INDIA *probably originated in the same Source, and, consequently, highly suspicious—This Assertion particularly proved by a variety of Facts, collected from the ancient History of Egypt, as given by Manetho, whose Annals are doubtless astronomical, himself being* A PRIEST OF THE SUN AT HELIOPOLIS. —*The great Use of* ASTRONOMY, *in settling obscure Points of History—The Ignorance of the Ancients in regard to the Phænomena of* COMETS: *their Nature, and periodical Returns afford strong Evidence against their arrogated Antiquity, as well as in part overthrow the Arguments advanced by* M. BAILLI *to establish their Pretensions to such high Proficiency in* ASTRONOMY *as he has imputed to them—This Chapter concludes with examining, whether the Claims of the* EGYPTIANS *to be the oldest Nation in the World, ought to be admitted, and upon what Foundation those Claims were founded—The absolute Futility of all Claims of the kind shewn from the uncertain meaning anciently affixed to the Term* YEAR.

IT may not be improper at this infant period of the History of Hindostan, a period which, we have seen, is so intimately, so inseparably blended with the fables both of astronomy and mythology, to submit to the reader's consideration the propriety of one general maxim, which I venture thus early to lay down, a maxim which is the result of every retrospect upon this complicated

subject, and which, in reality, appears to have been predominant in the mind of the investigator of the Indian chronology in the Asiatic Researches: I mean, that when a nation goes to THE SKY for its legislators, and adopts the tenants of THAT SKY for its kings, it amounts to a proof nearly demonstrable, whatever may be their vaunting claims, that the race of people constituting that nation, possess no *solid* nor *genuine* historical documents to direct them in their accounts of very ancient periods, and the transactions of very remote ages. But the earliest annals both of Egypt and India *are* crowded with these celestial legislators, and these sidereal sovereigns, and therefore the just inference is, that they ought not to be admitted into the volume of authentic history; at least, without the most rigid examination of their pretensions to the distinguished station which they claim in its page. Founded upon extended observation, corroborated by a diligent comparison of the earliest annals and romantic claims of the most ancient kingdoms, and justified by the experience of ages, the more minutely we examine the principles upon which this maxim rests, so much the more extensively will the truth and propriety of it be established. Let us then, as briefly as may be possible, consider this subject; first, as it regards the former, and, secondly, as it more particularly relates to the latter, of those countries.

The most ancient known records of Egypt are those contained in the Old Egyptian Chronicle, and in Manetho's History of the Dynasties. The substance of both these Histories is given in the Chronographia of Syncellus, or rather, to speak more properly, of one George, a monk, who flourished in the eighth century at Constantinople, and who was thus denominated from the office of Syncellus, which he filled in that church. According to this author, the Old Chronicle, as well as Manetho, pretended to trace back the ancient history of Egypt through a long succession of gods, demigods, and heroes, during a period of 36,525 years; but while he

relates this fable, Syncellus, in a commentary upon the passage, at once obviates the difficulty, and solves the whole enigma, by expressly declaring,* That in the space of 36,525 years, which are the amount of 1461 multiplied by 25, a complete revolution of the zodiac, according to the calculations of the Egyptians and Greeks, was supposed to take place, when the equinoctial point, placed in the first degree of Aries, returned to the same spot. In explanation of this remark may be added a passage from Julius Firmicus,† a celebrated divine and astronomer of the fourth century; that the Egyptians imagined that in the time, or cycle, of 1461 years, not only the sun and moon, but the other five planets, re-commenced their revolutions at the same point of the zodiac. Now this cycle of 1461 was called in Egypt the great Canicular year, or Sothiacal period, because it commenced on the first day of Thoth, the first month, when the dog-star rose heliacally.‡ The former then was the grand period of the zodiacal revolution, and was by the vanity of the Egyptians assigned as the period of the duration of their empire from the creation of the world. But even this extended period of duration could not satisfy the exorbitant vanity of Manetho, who, in his History of the Dynasties, extended through three ample volumes, the substance of which Eusebius has given us in a Greek translation, has carried up their chronology as high as

* Syncelli Chronographia, p. 51.

† Julius Firmicus, cited by Jackson in Chronological Antiquities, Vol. II. p. 96.

‡ The multiplication, however, of 1461 by 25 will not produce 36,525; but the mistake appears to me clearly accounted for, and rectified, by the very learned chronologist last named, in p. 30 of the same volume.

A star, says Keill, rises *heliacally* when, after it has been in conjunction with the sun, on that account invisible, it comes to be at such a distance from him as to be seen in the morning before sun-rising, when that orb, by its apparent motion, recedes from the star, towards the east. Vide Keill's Astronomical Lectures, p. 222, sixth edition. The Egyptians commenced this period at the heliacal rising of the dog-star, because the dog-star was consecrated to Isis; and Isis is a conspicuous star in the head of that beautiful and resplendent constellation the CANIS MAJOR.

53,525 years. Let us for a moment pause, and examine who was this Manetho; at what period did he write; and whence did he derive his authorities? On inquiry, we shall find, independently of what has been already urged, very ample ground to doubt his credit as an historian. In the first place, Manetho was chief priest of Heliopolis, that is, *the city of the sun,* and keeper of the public records; and both his official prejudices in favour of that religious institution in which he held so distinguished a rank, and for which he would naturally possess so *interested* a zeal, as well as his being in the sole possession of the sacred records, which he might garble and mutilate as he pleased, rendered him a very unlikely person to compose any impartial or authentic history of Egypt; of Egypt, a country where, as in India, theology and politics were so intimately blended. In the second place, he flourished in the time of Ptolemy Philadelphus, that munificent patron of learning, in whose reign, and by whose express order, was made the Septuagint version of the books of Moses, about the year before Christ 252; and in this very circumstance may probably be discovered the genuine motive of his commencing the arduous task of arranging in chronological order the ancient dynasties of the Egyptian monarchs. Stung with envy at observing the claims, even the just and modest claims, to antiquity of the Jewish nation, and rouzed to similar jealousy by the appearance in the very same reign of the Phœnician History, by Berosus, the priest of Belus at Babylon, the Hierophant of Heliopolis projected and accomplished that historical detail over which the reveries of mythology, and the speculations of astronomy have united, as the author probably intended, to throw a veil of impenetrable mystery. Gods, demi-gods, and heroes, absurdly blended together in the page of HUMAN history, swell the fabulous table; and cotemporary kings—as has been amply proved by Sir John Marsham in his Canon Chronicus, a book which has crumbled to atoms this pompous column of Egyptian vanity—I say,

cotemporary sovereigns reigning in various provinces of Egypt, have been arranged into series of successive emperors through a long descent of imaginary ages. In the third place, the credit of Manetho's history is greatly invalidated by the very title of the dedicatory volume to Ptolemy Philadelphus, which is that of SOTHIS, or the dog-star, a circumstance which plainly evinces it to be an astronomical history. But, in the last place, that which constitutes the greatest objection of all to these dynasties of Manetho is, the vaunted monuments of unfathomable antiquity from which they are professed by Manetho himself, if Eusebius rightly records the fact, to have been copied; that is, from certain pillars in the yet undiscovered land of SERIAD, inscribed, before the flood, in the sacred dialect by the first Taut, and after the flood translated out of that sacred dialect into the Greek tongue, and laid up in the most sacred recesses of the Egyptian temples by Agathodæmon. This assertion of Manetho, containing this romantic representation, and which was intended to establish the credibility of his history, tends directly to overthrow it; for, as Stillingfleet has forcibly observed,* this fabulous author could not in fewer words have more manifested his own imposture, nor blasted his own credit more, than by a representation so idle and so improbable. It is possible, indeed, as Dr. Jackson and others have contended, and even proved, that, in the dynasties from MENES downwards, that is, of kings professedly mortal, much historical truth may be contained; but I cannot avoid observing, that of an history compiled by such a character, under the impulse of such motives,† and in the former

* Origines Sacræ, book 1. cap. 2. sect. 2. This work of the bishop's is asserted in the Biographia Britannica to be "the best defence of revealed religion ever written."

† The author hopes the candid *lay-reader* will not impute to similar motives this humble attempt to vindicate the truth of the Mosaic system; for he can assure him, that he possesses neither the distinguished rank, nor the ample revenues, of an HIEORPHANT, unless a distant and laborious curacy of 50*l.* per annnm, should be considered as conferring that elevated rank, and those immense revenues.

part of which such glaring errors are manifest, the whole is rendered justly suspicious; nor ought any part to be relied upon which has not the corroborative evidence of Herodotus and Diodorus Siculus.

After what has been said of the credit due to this ancient Egyptian Chronicle, I shall be readily excused by the reader from going farther into the historical absurdities it contains; yet amidst this indigested heap of fable, it is very remarkable that one evident and momentous TRUTH breaks forth, a truth which the great Cudworth has amply provêd the Egyptian divines and philosophers acknowledged, though obscured amidst a cloud of mythologic errors, and that is, the existence of a supreme, eternal, and infinite God. The first dynasty consists of the reign of twelve deities, which alone take up the enormous space of thirty-three thousand nine hundred and eighty-four years, and is denominated that of the AURITES, from AUR, a word which, in the Phœnician language, signifies *light* or *fire*, a circumstance which of itself sufficiently points out the region whence they derived their origin, and what kind of deities they were. To the reign of Vulcan, the first king of this dynasty, by whom they unquestionably meant the supreme God, that God whom our Scriptures sublimely say, *answereth by fire*, THE TRUE, THE IMMORTAL AURITE, no period whatever is assigned, since his dominion extends through all ages, and his power expands unconfined through the whole circle of nature. To Helius, the son of Vulcan, they assign a reign of thirty thousand years. Now Ηλιος is the peculiar Greek astronomical appellative of the SUN, and is nothing more than the Hebrew word EL modelled after the Greek manner of pronunciation.* The reign, therefore, of Helius unquestionably means only the great solar revolution.

* Costard's Astronomy, p. 196. I know not if there have been, as there deserves to have been, more than one edition of this excellent work. That in my possession bears the date of 1767, which I mention for the sake of accuracy of reference. That part of it which regards

But if the Egyptian hierophants, in the early periods of the history of that empire, have run out into these romantic details, confounding the vast revolutions of the planets with the revolutions of terrestrial empires; how much more have those of India outraged all reason, and violated all probability! They have invented periods for the duration of their empire of such immense extent, and assigned to their empire such a romantic and remote origin, that in this respect the Egyptians are not to be put in competition with the Indians, for boldness of conception, and brilliancy of imagination. The chronological history of the former is bounded by thousands; but that of the latter expands itself into millions. They have CALPAS, and MANWANTARAS, and YUGS, in an everlasting rotation. The Indians, however, it must be owned, have the credit of superior honesty; when they ingenuously own, what the recital of astronomical superstitions in the former chapter tolerably well substantiates, that a race of heaven-born sovereigns, the orbs of heaven, long maintained despotic sway in Hindostan;—that their first sovereigns, were, in fact, begotten by SURYA, the personified sun, when he descended from the flaming chariot of day to visit the lovely plains of Bharata;—and when they expressly denominate those sovereigns, Surya-bans, and Chandra-bans, or children of the sun and moon. But what is truly surprising, when we contemplate this baseless fabric of a vision, is, that they have not wanted abettors in these romantic claims, among Europeans of distinguished talents and learning; and that even in the Christian world have started up vindicators of these air-built systems. Ignorant of the allegorical spirit, and astronomical bias, which pervades all their histories of early date, they have laboured to realize a chimera and consolidate a shadow. They do not recollect that every star, in the Indian system of astronomical mythology, has its ethereal regent,

the Arabian astronomy is, I observe, given in the Asiatic Miscellany, printed at Calcutta in 1785, where the reader will find the remark in the text, vol. I. p. 46.

to dispense upon the inhabitants of this nether world baleful or benevolent influences; and that these regents, these imaginary dynasties of heaven-born sovereigns, are innumerable, as the stars which they are supposed to govern: that the planets have also their peculiar guardian genii, the departed spirits of terrestrial kings and heroes, to direct their course through the spacious arch of heaven, whose long revolutions are confounded with the lives of those canonized mortals, and whose conjunctions and oppositions with the other planetary bodies, are distinguished by terms that among men import union and marriage, or conquest and defeat. Thus among the planets, Jupiter is said to conquer, bind, and emasculate, his father Saturn, that is, his light is eclipsed and his influences checked by him; and Venus, in some happy conjunction with Mars and Mercury, is said to have been criminally connected with them, and to have born them children. Thus again, in sidereal mythology, Hercules, that is, the solar genius at a certain period, rising in the constellation Hercules, is recorded to have slain the Lernæan Hydra, that is, the Hydra of the sphere, by cutting off successively its golden heads, (the numerous stars glittering like gold included in that asterism), and therefore poetically called its golden heads; whose light was gradually extinguished, or became occult, as the superior lustre of the sun beamed forth in the opposite portion of the heavens. Thus we see how astronomical speculators, joining with fabulous mythologists to annihilate all the genuine history of the ancient world, have laid the basis of these gross misconceptions, and invented these national forgeries so flattering to the founders of great empires. But since it is principally through the medium of astronomy that the brand, pointed against the Mosaic system, has been aimed, through the very same medium shall the answer, at least as far as it concerns India, and the present subject, be made. These gentlemen, among their first principia, lay it down as a maxim, that there is a perpetual change and fluctuation in

sublunary affairs, in the growth and maturity of human knowledge, and its application. They themselves are an irrefragable proof of their own position; for who could have supposed that the noble science which Newton and Halley, in the last century, made subservient to the illustration of the Christian religion, and the support of the Mosaic system, should have been degraded, in the present, to invalidate, to vilify, and undermine their sublime truths? As this history may therefore, in some degree, be considered AS THE HISTORY OF ASIA ITSELF, AND OF THE HUMAN RACE IN THEIR INFANT STATE, I trust, while I am engaged in investigations of this extensive nature, of which the final result will be the elucidation of the particular history of Hindostan in its most ancient periods, that a cursory attention to subjects of a nature highly desultory and complicated, will not be considered as *prolixity*, nor an occasional circuit in quest of truth, as an unnecessary deviation from the principal subject.

That candour and that patience, the exertion of which I thus early and anxiously solicit of the reader, it becomes necessary for me to put to immediate trial, while I find myself compelled to enter still more extensively into the wide field of astronomy, in order more strikingly to display its utility in illustrating the history which I have undertaken to write, as well as to point out the errors which the future pages will prove to have arisen from the misapplication of so noble a science.

Indeed the very important use, or rather the absolute necessity, of ASTRONOMY in settling obscure points of HISTORY and CHRONOLOGY, especially those that regard their most early periods, must be obvious to every reader of reflection. Remarkable aspects of the heavens at certain periods, particular conjunctions or oppositions of the planets, but in a more peculiar manner, the appearance of comets,* those tremendous objects of alarm and astonishment to the

* There was a most curious tract upon this subject, published by Mr. Costard in 1765, in

ancient world, as well as eclipses of the sun and moon, have, in all ages, excited the curiosity and fixed the attention of mankind. With respect to cometary appearances, nothing is more to be regretted by posterity than that the ancients considered them as portentous signals of approaching calamity, held out by the warning hand of Providence to terrify and reform a guilty age, rather than regarded them in a philosophical point of view. Upon this account it has happened, as is observed by the great Halley in his Synopsis of Comets,* that this most abstruse part of astronomy lay altogether neglected by the ancient professors of that science. Even the profound ARISTOTLE himself, according to the same author, thought COMETS to be only a kind of fiery meteor, or sublunary vapour, floating in the æther. It was not till SENECA had attentively considered and compared the phænomena of two remarkable comets of his own time, that comets arrived to the distinction of being numbered among the celestial bodies. But the phænomena which that eminent philosopher thus diligently observed, he neglected to minute down for the benefit of future astronomers; and it was only at the late period of 1337 of the Christian æra, that Nicophorus Gregorius, an astronomer and *historian* of Constantinople, began with any tolerable accuracy to describe the path of a comet among the fixed stars.† Under forcible impressions of this culpable negligence in his predecessors, the indefatigable author of the Synopsis, above mentioned, sat down and composed that stupendous effort of human industry, that noble result of many complicated and profound calculations, THE TABLE OF THE ELEMENTS OF COMETS, upon which, he tells us himself, that he spared no labour, that it might

which, from the appearance of a comet at that period, he has fixed the precise time in which the battle of Salamis was fought, and has corrected a capital error relative to the Grecian Olympiads.

* Consult that Synopsis inserted at the end of Halley's Elements of Physical and Geometrical Astronomy.

† Halley's Synopsis, apud Gregorius, vol. II. p. 883.

come forth perfect: and he adds, with a noble kind of pride, arising from conscious merit, that he presents it "as a thing consecrated to posterity, to last as long as astronomy itself shall last." Another table, founded upon observations made by English and French astronomers, of the phænomena of comets which have appeared posterior to the time of Dr. Halley, has been since formed upon a similar plan, and brought down to the year 1762. These tables cannot fail of finally reducing to more certain principia that portion of the astronomical science, which has for many ages been, of all others, the most fluctuating and precarious. What the ancients neglected, has also, in other respects, in a great degree, been supplied by the persevering diligence of modern astronomers, who, by retrogressive computation of the period of the returns of certain comets, have fixed some important æras in chronology, and, if they have not established the absolute reality, have greatly corroborated the authenticity, of many considerable events in history. This *almost total ignorance of the ancients* in regard to the nature of COMETS, I have thus particularly mentioned, because it affords, in my opinion, a very strong presumptive proof, that their conceptions of the motion and phænomena of the heavenly bodies, however extolled by those French astronomers, were far from accurate, and that their improvement in the sidereal science by no means kept pace with the diligence, the frequency, or the extended period of their observations. According to Pliny, a comet of a most tremendous aspect, wreathed in spiral volumes, and resembling a knot, or cluster of fire, in the most early periods of the world, appeared in Egypt and Æthiopia, which, he says, the king then reigning in Egypt denominated TYPHON; and because Plutarch affirms that the ocean was called Typhon, an argument has been deduced from thence, that this comet was the occasion of the deluge: since this vast train of accumulated vapours forming its tail, according to Whiston's System, was the

natural means in the hands of Providence of overwhelming the earth and annihilating its inhabitants. One would be inclined to think that those who had observed such an awful phænomenon, although it might not have been productive of so dreadful a catastrophe as is conjectured by Whiston, would ever after have marked the appearance of the "blazing stranger" with minute attention, and noted down both the period of its coming, and all the phænomena, with peculiar exactness, but the reason is ingeniously given by Pliny, who expressly relates the sentiments of the ancients on the subject till the time of Seneca; Nec stella verius, quam quidam IGNEUS NODUS;* *it was not, in fact, a star, or celestial body, but* A KNOT OF FIRE. So little, however, did the ancients, the accurate observers of the heavens for so many thousands of years, according to the exaggerated accounts of these sceptical astronomers, understand or regard the phænomena of one of the most important bodies that revolve through them, that had not the circumstance formed an important æra in the history of Rome, posterity would probably never have known that a comet was seen at that capital, forty-four years before the birth of Christ; and thus the great astronomer mentioned before in terms of such deserved respect, would have been deprived of *one* means of proving to a certainty that comets revolve in fixed, but widely elliptic, orbits, and, like other heavenly bodies, complete their revolutions in stated, though vast and wonderful, periods. Now that immortal observer of the path of comets, through the vast expanse of space, after investigating the elements, and displaying the particular phænomena of the great comet of 1680, has offered the most solid arguments to prove that this comet completed its revolution in 575 years, and consequently was the very comet which appeared in the preceding years 531 and 1106 of the Christian æra, and in the forty-fourth year before Christ; a period dis-

* Plinii Nat. Hist. lib. 2. Cap. 25. p. 14. Aldi edit. 1559.

tinguished by that memorable event, the death of Julius Cæsar; a period in which the pride and dignity of Roman virtue became so debased as to allot the orb of that comet for the future mansion of the soul of an artful and sanguinary dictator, who had overturned the constitution of his country. Although, owing to this neglect and ignorance of the ancients, the modern hypothesis in respect to comets is by no means complete, and much yet remains to be explored concerning their nature, their track through the heavens, and the period of their several revolutions; yet, before I quit the subject, I cannot avoid making one concluding reflection, which I shall leave to the reader's attentive consideration. If then, of the numerous comets which are supposed to belong to the solar system which we inhabit, and which are continually offering themselves for human investigation, so very little certain was known by the ancient astronomers concerning their elements and periods, during the revolution of so many centuries, that they accounted them only fiery vapours, or luminous nebulæ, the early and profound knowledge in astronomical subjects which has been attributed to them, is strongly to be suspected: and there is the greatest probability that their acquaintance with the celestial bodies was circumscribed within very contracted limits, and rested upon a very uncertain and unsubstantial basis.

Notwithstanding the lofty pretensions of the Indians, the Egyptians still avowed themselves to be the most ancient people of the earth: and it is but just, that a nation so venerable through all antiquity for their consummate wisdom, should have their claims attended to in a volume that penetrates so deeply, as the present does, into the gulph of remote, and even ante-diluvian æras. It is necessary, however, in this place that I should again remind the reader, of the magnitude and extent of the important points which I have undertaken to investigate, and as the only apology I can urge for this apparent deviation from the immediate subject of the his-

tory, I most earnestly request his attention to what has been related in the Indian Antiquities, from Sir William Jones,* that Surya, the SUN, is believed in India, frequently to have descended from his car in a human shape, and TO HAVE BEGOTTEN AN EARTHLY PROGENY; that, in the form of Creeshna, that Sun again descended, at his own festival, on the plains of Mathura, and by dividing his luminous body† into as many portions as there were virgins present, established the sacred circular dance, in imitation of that of the planets round his own central orb, and denominated the RAAS JATTRA; that this festival, according to Mr. Holwell, *is universally* observed in the most sacred manner through Hindostan, and that the most ancient and venerated dynasties of rajahs are called the children of the sun and moon: I intreat him, therefore, to reflect how necessarily I am engaged in this extensive retrospective view of ancient astronomical periods; for indeed without them, this part of the history would be utterly obscure and unintelligible. It has solely arisen from my anxiety to corroborate, or rather to demonstrate, the hypothesis, that the ancient histories of nations consist for the most part of the reveries of astronomers, that I have taken so wide a range in the ancient sidereal details of the other neighbouring Oriental empires. The following considerations will, I hope, at once invincibly prove the veracity of my assertions, and justify the protracted excursion so particularly made to the philosophers of the Thebais.

One of the most daring vaunts of that vain-glorious people on this point was, that, during the immense period of the existence of their empire, "quater cursus suos vertisse sidera, ac solem bis jam occidisse unde nunc oritur,"‡ or, that the stars had four times changed

* See the Theological Dissertation, vol. I. part 1, p. 200.

† Creeshna in person was indeed black; but as the representative of Surya, his body may be called luminous, I have Miltonic authority for the expression,—"dark with excess of light, thy skirts appear."

‡ Vide Pomponius Mela, lib. 1. cap. 3.

their courses, and that the sun had set twice in the quarter in which he now rises. A great astronomer of the present century has fully solved this ænigma, by supposing that those who invented this fiction might have sailed down the Red Sea, and either coasting Africa, entered Egypt again by the mouth of the Nile; or, what he thinks more probable, sailing eastward and up the Euphrates, returned home again the same way, by which the changes alluded to would appear to take place.* The Egyptians, however, not only assigned to their empire an imagined antiquity, founded on calculations relative to the revolutions of the celestial bodies, whose immense periods they applied to the reigns of their princes and the duration of their monarchy, but they likewise attempted to demonstrate that antiquity, from a consideration of the constituent parts of the *earth itself*, and in particular, from the gradual growth and formation of the Delta. That the vast valley which bears that appellation, and which extends from Elephantina to Alexandria, was once a gulf of the sea, which entered that region in a direction from north to south, in the same manner as the Red Sea penetrates the opposite region, from south to north, and that this valley was by degrees filled up by the abundant slime which the Nile brings down in its course from the mountains of Ethiopia, during the annual inundations, is a possible, but not a proved fact. The principal evidence brought in confirmation of this opinion arises from the assertions of Herodotus, that in the time of Menes, the first Egyptian king of mortal birth, all Egypt, except the Thebais, was one vast morass; that in the reign of Mæris, who flourished 500 years before the Trojan war, and fabricated the extensive lake which bears his name, the waters of the Nile, rising to the height of eight cubits, entirely overflowed the Delta, while in his own time, after an interval of 900 years, the complete inundation of it required sixteen cubits of water. According to his computation, it required twenty thousand years to fill up the

* See Mr. Costard's Rise of Astronomy, p. 8.

gulf, where the waters of the Nile, surcharged with mud, rushed into the ocean, and gradually formed the solid land, which finally proved the barrier of its incursion.* In detailing these accounts, and in forming these calculations, he professes to have been guided partly by the records of the Egyptian priests themselves, and partly by actual observations made on the spot.

In addition to this evidence adduced from Herodotus, Homer is cited by Pliny,† as declaring that, in his days, "the island of Pharos was distant a full day's sail, with a fair wind, from the continent of Egypt;" whereas it now forms part of Alexandria, and thus a space of twenty leagues, at least, must have been filled up by the accumulated mud of the river. It has been urged ‡ likewise, in proof of this hypothesis, that the Delta is in fact an acquired land, the gift of the river, and, as an Arabian writer expresses himself, a stranger in the place of its situation, consisting of soil totally different from that of the countries immediately confining upon it, which is either red and sandy, or clayey and stony, whereas the whole triangular valley of the Delta is formed of a rich black earth, luxuriant in vegetation, and abounding with humidity. Though nothing can possibly be more visionary than systems founded upon such romantic conclusions as these, conclusions of which the innumerable incidents and incessant vicissitudes that take place through nature during an extended period of years, in every country and climate of the world, as earthquakes, volcanos, and other convulsions, must evince the fallacy: yet as similar sentiments have been engendered in the minds of certain speculative writers on a consideration of the Deltas formed at the mouths of the Ganges and Indus, it becomes in a degree necessary to examine the merits of this question somewhat more minutely. It is not incumbent upon

* Herodoti lib. 2. p. 130.

† Vide Plinii Nat. Hist. lib. 2. cap. 85, p. 36. Aldi edit. 1559.

‡ See M. Vatier's Preface to Murtadi's Prodigies of Egypt, p. 5. English edit.

us in this place to investigate the truth of the original position, that portions of earth are thus necessarily and progressively formed at the mouths of considerable rivers, for that investigation would lead into too ample a field of argument; but whether on this or any similar basis, an hypothesis subversive of regular and established chronologies can be supported, or is at all deserving of credit.

With respect to the Delta of Egypt, it certainly cannot be supported. Notwithstanding all the arguments brought by Herodotus, Strabo, Pliny, and the modern traveller M. Savary, who strenuously labours to prove that its Delta was, in reality, thus formed; that hypothesis has been shaken to its foundations by the more powerful arguments of two very recent and well informed travellers to the same country, who have at considerable detail, and with great ingenuity, discussed this interesting question. Those travellers are Mr. Bruce and M. Volney: the former of whom objects to the mode of calculation of Herodotus in regard to the number of additional cubits necessary, in his time, for the waters of the Nile to be elevated to inundate the Delta, not only because the proportions of the cubit materially varied in different eastern countries, but because Strabo, who travelled into Egypt 400 years after the time of that historian, asserts eight cubits to be the minimum of their elevation in his time, as well as it was in the days of Mæris: he insists that a river rapidly descending, as does the Nile, from a country of bare and rocky mountains, and running for the most part over a bed of granite, must, in its progress to the ocean, have a tendency rather to wash away the soil of the narrow valley through which it passed, than to be the cause of the accumulation of its soil; that from numerous experiments made by himself, at Basboch, relative to the quantity of sediment, at Syene and Rosetta, contained in its water, that quantity was in fact very inconsiderable, and mostly consisted of sand, swept from the deserts, rather

than rich mould; and, to use his own words, "he thought these experiments to be conclusive, since neither the Nile, coming fresh from Abyssinia, nor the Arbara, though joined by the Mareb, likewise from the same country, brought any great quantity of the soil from thence." Mr. Bruce adds, that had there been that gradual increase of land conjectured by Herodotus, that increase must have been far more perceptible round the most ancient public monuments of Egypt, which is by no means the case, since the base of all the obelisks is quite bare: and that, as the land has not been apparently *elevated*, so neither has its extent been *enlarged*, for that from the situation of CANOPUS, the distance between Egypt and Cyprus, and the extension of the land to the northward, it is evident that no addition, of any consequence, has been made to it, for 3000 years past.* M. Volney agrees decidedly in opinion with Mr. Bruce, that the Delta is not the gift of the river, and that the difference alleged, relative to the rise of the Nile, is entirely owing to the difference of the measure by which that rise is estimated.† With respect to the argument deduced from the remote distance which the island of Pharos is said anciently to have been situated from the main land of Egypt, he in the first place insists that Homer is grossly misrepresented, who does not speak of the opposite shore, but the mouth of the Nile; and whoever will consult the original passage, will find that M. Volney's is the more accurate statement. In the second place, he contends, and produces proofs of his assertion, that "by a day's sail," the ancient Greeks understood, not so much the indefinite space, which their vessels could sail through in a day, but a certain fixed distance of five hundred and forty stadia; now, observes M. Volney, taking, with D'Anville, the five hundred and forty stadia for twenty-seven thousand toises, or nearly half a degree, we shall find this measure is the exact distance of the Pharos from the Nile; for it extends exactly to two-thirds of a league

* Bruce's Travels into Abyssinia, Vol. I. p. 326. † Volney's Travels, Vol. I. p. 26.

above Rosetta, a situation where we have reason to place the city which gave name to that mouth of the Nile, denominated Bolbitine.* M. Volney, in very forcible terms, states the difficulty of conceiving how the shore of the Delta, which has not gained half a league since the days of Alexander, should have gained eleven in the far shorter period from the time of Menelaus to that conqueror; and he inforces conviction of the truth of his hypothesis, by shewing how very little is the comparative difference of the admeasurement of Egypt in breadth and length, as given by Herodotus, and that recently stated by the accurate astronomical observations of M. Niebuhr. Thus have I been able to bring this fine writer's testimony in favour of that Mosaic chronology, of which, on other occasions, I am sorry to add, he has proved himself to be one of the most decided enemies that France ever produced.† By this irresistible evidence, therefore, resulting from the pointed observations and repeated experiments made on the spot by these enlightened travellers, the supposition of Herodotus, that the Delta had been twenty thousand years in forming, and all the extravagant calculations of the Egyptian priests relative to the immense duration of their empire, founded upon similar computations, are absolutely annihilated. With respect to any kindred hypotheses being formed from conjectures respecting the DELTAS at the mouths of the Ganges and Indus, I shall hereafter have occasion to demonstrate that they must be still more visionary, baseless, and absurd.

But, besides these, a few other striking testimonies may be brought to prove the fallacy of the calculations of the Egyptians, relative to the duration of their empire; and from thence it will still more evidently result that the reign of a king of ancient Egypt, was the revolution of a planet, and his actions solely its motions and revolutions.

We have seen in a former work, the INDIAN ANTIQUITIES, that

* Volney's Travels, Vol. I. p. 27.

† Witness "The Ruins"!!!

according to Pococke, Osiris, bearing a whip in his hand, was represented sailing about the world in a ship, as the pilot and governor of that world; and is pourtrayed on the walls of the great temple of Osymandes, sitting on a boat, and borne aloft on the shoulders of twelve men, probably emblematical of the twelve months. This, indeed, is one of the most common symbolical representations of that deity on Egyptian monuments. Osiris, however, was not invariably the emblem of the sun, since he sometimes usurped the character and functions of his consort Isis, to which Plutarch bears testimony* in the very curious information that *the dismembering of Osiris into fourteen parts*, was only a mythological mode of expression for the different phases of the moon, during the period of the increase and decrease of that orb. That author has indeed unravelled the whole mystery of that celebrated king, or rather god, of Egypt. He tells us, that, by his being inclosed in a chest, or coffin, many philosophers understand nothing farther than an eclipse of the solar light during the passage of the moon's orb over the disk of the sun. Again, he observes that Osiris is said to have *lived*, or rather, as some have it, to have reigned, twenty-eight years; manifestly alluding to the different degrees of light which appear in the moon, and to the number of days in which she performs her course round the earth. In this passage we have direct evidence from Plutarch, how greatly the Egyptian priests, in their astronomical phraseology, resembled the Indian Brahmins, for here a *year*, in their mythological phrase, is put for a *day*; and to live twenty-eight DAYS is synonymous with reigning twenty-eight YEARS.

A peculiarly strong additional proof that all history whatever of the earliest periods is, if not entirely composed of, yet deeply tinctured with astronomical fables, is the circumstance previously detailed relative to the birth of the five great deities of Egypt, Osiris, Isis, Orus, Typhon, and Nepthe, who, we have read, were the off-

* See Plutarch de Iside et Osiride, p. 93.

CHAPTER IV.

The Subject of the YUGS, *or four grand Periods during which the* HINDOO *Empire is asserted, in the Brahmin Histories, to have flourished, resumed—The Birth of* BRAHMA, *the grand* HINDOO EPOCH *of the World—*BRAHMA *and* OSIRIS *probably the same mythological Person — The fourteen Sons of Brahma, called* MENUS, *an astronomical Progeny—Agriculture and Husbandry, the constant Employ of the Shepherds of* CHALDEA, *probably gave Existence to the first Sphere; and, in particular, to the earliest Asterisms of the* ZODIAC*—In the more advanced State of Society* DEIFIED MORTALS *were elevated to that Sphere; and the animal Figures of the* ZODIAC *became their representative Symbols upon Earth—The* EGYPTIANS *proved not to have been the first Inventors of the Constellations, from the Want of Agreement of those Constellations with the Seasons and Mythology of Egypt —The Names of the particular Æras of the Indian Chronology stated, and their Meaning investigated—The Day and Year of* BRAHMA *applicable to celestial Beings alone—The Indian Month, according to the old Mode of computing Time in that Country, consisted only of fifteen Days, being regulated by the* BRIGHT AND DARK PORTIONS OF THE MOON'S ORBIT *— Their Year was proportionably contracted — The exaggerated Details of that Chronology therefore a gross Imposition upon the Common Sense and Reason of Mankind—With a brief Summary of the Arguments and Facts stated in the preceding Pages, the Indian Chronology is for the present concluded.*

I SHALL re-introduce to the notice of the reader the subject of the YUGS with observing, that it is absolutely impossible to account for

those immense periods, during which the ancient empires of Egypt, Chaldea, and India, are asserted by their several vain-glorious and vaunting historians to have flourished, otherwise than by considering them as referring to the extended and almost immeasurable periods which the celestial bodies take up in completing their revolutions. This is the great criterion by which we must judge of their pretensions to such incredible antiquity, and by it, if I mistake not, the whole stupendous structure upon which ancient PAGANISM and modern SCEPTICISM, in opposition to the united remonstrances of truth, sense, and reason, have built their worthless and baseless systems, will be levelled with the atoms of sand on which that structure was built. The slow motion of the ECLIPTIC, the obliquity of which was known to the ancients, and which is now determined by astronomers, to decrease at the rate of about half a second in a year, or a degree in seventy-two years, and the apparent motion of the fixed stars, are the principal source to which these errors may be traced; and by this touchstone I shall immediately proceed to the final examination of the chronological reveries of the Brahmin historians and astronomers.

Strongly impressed with the idea that the great YUGS, or periods of India, were the mere fabrication of astronomers, and only other terms for the great solar revolution, or the lunar cycle, but in a more particular manner allusive to the latter, and convinced that, like those of Egypt, they could only be explained in that manner, I consulted the systems of Indian astronomy published by Mr. Bailli, as well as the various accounts hitherto given in Europe, relative to this enormous chronology, for a full resolution of the difficulty, in vain. Quintus Curtius, however, had previously somewhat enlightened my path through this chronological maze, by the following interesting information, which its importance induces me to insert at length in the text, viz. Menses in quinos denos INDI descripserunt dies. Lunæ cursu notant tempora, NON, UT PLERIQUE, QUUM ORBEM

SIDUS IMPLEVIT; SED QUUM SE CURVARE COEPIT IN CORNUA: et idciro BREVIORES habent menses, qui spatium eorum AD HUNC LUNÆ MODUM dirigunt:* the INDIAN month consists of FIFTEEN DAYS: they indeed compute their time by the course of the MOON, BUT NOT, AS MOST OTHER NATIONS DO, WHEN THAT PLANET HATH COMPLETED HER PERIOD; BUT WHEN SHE BEGINS TO CONTRACT HER SPHERE INTO HORNS; and therefore they must necessarily have SHORTER MONTHS, who regulate their time according TO THIS MEASURE OF LUNAR CALCULATION. The important intelligence contained in this remarkable passage, I found confirmed in Mr. Wilkins's notes to the Heetopades,† in these words: The Hindoos divide the lunar month into what they denominate the *Sookla-paksha*, and the *Creeshna-paksha*, that is, *the light side*, and *the dark side of the moon;* the former commencing with the *new* moon, and the latter at the *full*. By this twofold testimony of authors who flourished in ages so distant from each other, I was more and more confirmed in opinion, that the vast æras above recited were the exaggerated computations of astronomy, and regarded the transactions of celestial rather than of terrestrial objects. Previously, however, to forming any decided system upon the subject, or entering upon the laborious task of calculations almost as boundless in their extent, as uncertain and precarious in their result, it seemed important to be fully acquainted with the precise purport and specific application of the Sanscreet word YUG, which, when obtained from an authentic source, I presumed would throw no small light upon the subject. In the notes to the BHAGVAT GEETA, I collected the desired information from these words of Mr. Wilkins, That the YUG, or YOOG, is a JUNCTURE, or JOINING; with the additional intelligence, that an ingenious mathematician‡ in India supposed that these YUGS are nothing more than astronomical periods, formed

* Quinti Curtii lib. 8, cap. 9. edit. Freinshemii. † Notes on the Heetopades, p. 302.

‡ I presume the celebrated astronomer Mr. Burrow.

from the coincidence of certain cycles, of which those of the PRECESSION OF THE EQUINOXES and the moon are two. The Ayeen Akbery, on the astronomy of the Hindoos, a part of that work professedly taken from the SURYA SUDHANTI, the most ancient and venerated treatise of the Brahmins on that subject, informs us that they do not reckon any particular number of heavens; but, like Ptolemy in his Almegest, say, that they are composed of CIRCLES.* Their chronology seems to be composed in exactly the same manner, and formed upon the same principia, while, like A TRUE CIRCLE, it is equally without beginning and without end.

The professed EPOCHA, however, of the Hindoos, according to Abul Fasil, in the same book, commences with the CREATION OF BRAHMA, and every one of his days is the commencement of a new æra. But what are meant by the DAYS OF BRAHMA ? On that point human computation is indeed lost; and rational conjecture absolutely overwhelmed. Every one of the days of Brahma consists of the astonishing period of fourteen MENUS; and the reader will please to remember, if his memory, with the other faculties of his mind, be not totally *overwhelmed* with astonishment, what Sir William Jones informed us of in a preceding page, that four million three hundred and twenty thousand years, multiplied by SEVENTY-ONE, constitute the exact period in which every MENU is believed to preside over the world;† yet, after all, the reigns of fourteen of these Menus are only a single day of Brahma! RISUM TENEATIS AMICI?

But to return to the extract of the SURYA SUDHANTI in the Ayeen Akbery. These Menus are said to be the SONS OF THE WILL OF BRAHMA, (therefore plainly allegorical personages,) and his coadjutors in the work of creation. It should seem, from a slight variation in their accounts, that Sir William and the Secretary of

* Ayeen Akbery, vol. III, p. 10.

† See Asiat. Research. vol. I. p. 237; and compare with the Ayeen Akbery, vol. I, p. 329

Akber had not derived their information from exactly the same source, since the latter acquaints us that every Menu comprises, not seventy-one, but only, seventy KULEBS, each containing four YUGS, or forty-three lacks and twenty thousand years. In such an extensive scheme of chronology, however, a few thousands, or even millions, of years are not much to be regarded. If the reader should cry out, where are we now then? In what particular portion of the boundless day of Brahma does the present race of human beings sojourn upon earth? He shall receive an answer to his anxious query in the unabridged words of the Ayeen Akbery. "On this, which is the first, day of the fifty-first year of the age of Brahma, there have been six Menus; and of the seventh Menu there have elapsed twenty-seven Kulebs, and three YUGS of the twenty-eighth Kuleb, and four thousand seven hundred years of the fourth YUG." But as this calculation was made above two centuries ago, when Akber sat on the Indian throne, those two centuries must be added to those that preceded them, to give the exact amount of the past years of the present, or CALI, YUG.

The birth of BRAHMA then is the grand epocha in the Hindoo chronology. BRAHMA, when understood in a physical, rather than a theological, point of view, seems to be in India exactly what Osiris, or the SUN, according to an explanation of that name given in a former volume from Jablonski,* was in Egypt, HE WHO MAKES TIME. As we slowly, cautiously, and gradually advance in this laborious investigation, we shall probably find substantial reason for supposing this mythologic being, considered in this physical sense of the word, to be the same also in person; or at least that SURYA, BRAHMA, and OSIRIS, are very nearly allied both in character and function! I dare not directly hazard the assertion, which has never been yet made; but when the reader calls to mind ALL that has been said concerning the ancient and general worship of the SUN

* Theological Dissertation, vol. II, p. 358.

in India, and authenticated by undoubted Sanscreet evidence; that Brahma was the first created DEWTAH, a name often applied to the celestial orbs, by whose agency, that is, by whose invigorative heat and light, under the operative impulse of a divine energy, creation rose into being; and that the first and the noblest progeny of Hindostan, that is, the *race of Brahma,* are called the CHILDREN OF THE SUN; the conjecture, however novel and dubious, may possibly not appear totally unfounded. At all events, if the AMARASINHA, a Sanscreet dictionary, may be credited, he is considered in India as the *brother* of the solar deity.

The Greek term Εποχη signifies a STOP, or POINT. By astronomers the word EPOCHA is used to denote that particular point of the orbit of a planet, wherein that planet is, at some known moment of mean time, in a given meridian; for, as the great astronomer of Cambridge, to whom I am indebted for this explanation of the term epocha, has observed, since time is in a continual flux, and the motion of every one of the heavenly bodies round its orbit is in a continual progression, it is necessary to fix upon some moment of time, and some point in that orbit for a beginning of computation.* The unbounded vanity of many nations in the ancient world, but especially of the Egyptians, betrayed them into many vain and absurd attempts to fix the precise epoch of the creation of the world; and Macrobius expressly says, that the Egyptian astronomers taught that, at that period, the sun rose in LEO, and the moon in CANCER.† Hence the former constellation was considered as the habitation of the Sun, or Osiris; and the LION was consequently venerated as the symbol of that celestial asterism upon earth. Hence too the latter sign was considered as the mansion of the Moon, or ISIS. Julius Firmicus, cited in Dr. Jackson's Chronological Antiquities, relates that they went beyond even this point of assertion, for that PETO-

* Long's Astronomy, vol. II. p. 421, quarto edit. Cantab. 1764.

† Macrobius in Somnium Scipionis, lib. 1. cap. 21. Lugd. Bat. 1760.

SIRIS and NECEPSO, two of the most ancient philosophers of that nation, taught that the world was created when the sun was in the fifteenth degree of LEO, and the moon in the fifteenth of CANCER.* The Indian astronomers, not less romantic than others, have determined that grand epoch to have taken place when, says Mr. Davis, according to their notions the planets were in conjunction in the beginning of MESHA, or ARIES.† They have too, with minute precision, fixed the exact moment of time in which their CALI YUG, or present grand period, commenced, which they assert to have taken place on the morning of the 18th of February, in the year three thousand one hundred and two, before the Christian æra, when there was a remarkable conjunction of the planets, and M. Bailli, *by means of the same retrograde calculations which the Indian astronomers probably used, to find out that memorable circumstance*, has discovered that, in fact, there *was* such a conjunction at that remote period, and, moreover, an eclipse of the moon from which their astronomical time is dated.‡ But on this subject of the early proficiency of the Hindoos in astronomy, it will be necessary for me to enter more at large hereafter; and I have stated these facts *at present* only as introductory to the succeeding observation, which I lament the necessity of so frequently repeating. It appears to me, in the course of my necessary retrospect towards these very early periods, that nearly the whole of the history that alludes to them, refers to the progress of the sun through the zodiac, the various vicissitudes which the moon's phase undergoes, the oppositions and conjunctions of the planets, the apparent revolutions of the fixed stars, and the supposed influences of these celestial bodies upon the earth and its inhabitants. It may, indeed, according to the ingenious, but fanciful, system of the Abbé le Pluche,

* See the original passage of Julius Firmicus, cited in Chronolog. Antiq. vol. II. p. 14.

† See Asiatic Researches, vol. II. p. 228.

‡ See Bailli's Astronomie Indienne et Orientale, p. 110. Quarto edit. à Paris, 1787.

be called the HISTORY OF THE HEAVENS, rather than of the earth; and nothing can be more admirable or just than some of the various allegories and symbols under which they shadowed out that history. That passage in the Saturnalia of Macrobius, in which he explains the motives that induced the ancients to assign the names of CANCER and CAPRICORN to the two constellations which may be called the portals, or barriers, of the course of the sun, is too curious, and too much connected with what will shortly occur relative to the Indian zodiac, to be passed over in total silence. "The CRAB, or CANCER," says this author, "is an animal that walks backward, or obliquely: so, likewise, when the sun arrives at this constellation, he begins his *retrogressive* journey, and again descends *obliquely*. With respect to the WILD-GOAT, or CAPRICORN, its place of feeding is always upon the ascent of hills, whose summits he delights to climb, while he as delighted plucks their nutritious verdure: in the same manner, the sun arriving at Capricorn begins to quit the *lowest* point of his course, in order to regain the *highest*."* The reader, admitting the apology just offered, will excuse my adding to this passage the substance of what the Abbé has briefly observed upon the other signs of the zodiac.† I shall for the present only slightly mention the remarkable circumstance which both this author, and others before him, have animadverted upon concerning the impossibility of the signs of the zodiac having been originally invented in Egypt, since many of them relate to an order of the seasons, and to the effects of a climate totally different from those experienced in Egypt; as well as to modes of husbandry and characters of mythology absolutely unknown in that country. For instance, in regard to the period of the harvest, he observes that, in all higher Egypt, it is entirely gathered in by the month of MARCH, or beginning of APRIL; and not much later in lower Egypt. But the sign

* Macrobii Saturnalia, lib. 1. chap. 17. Edit. 1670.

† See Histoire du Ciel, tome I. p. 11.

VIRGO, with the ears of ripened corn in her hand, so characteristic of the harvest, has a pointed reference to the months of AUGUST and SEPTEMBER, which in most countries is, in fact, the period of harvest, and universally so in the regions of the temperate zone. Again he observes, that the sign AQUARIUS, by which are denoted the abundant rains and the chilling winds of winter, could never originate among a people who scarcely know what is meant by rain, and with whom the winter is their finest season. According to the learned author of the History of the Persian Religion, whom I have had such frequent occasion to cite in the course of this work, the human GEMINI, or Hercules and Apollo, by which they distinguished the third sign of the zodiac, are unknown to the Persians, who fill up that place in the ancient sphere with TWO KIDS. But for what reason, says the Abbé, were the three asterisms which the sun goes through in the spring denominated the RAM, the BULL, and the TWO KIDS? It is a mark of the profound wisdom of the Creator, which is ever vigilant to provide for the wants of his creatures, that the mothers are commonly with young towards the autumn. By this caution the beneficial repose of winter is secured both to the mother and the embryo. If she bring forth during the cold season, the little animal is kept warm under the sheltering body of its mother. It thrives apace when the genial spring approaches; and increases in vigour with the increasing sun. Of the various flock, the LAMBS are earliest produced; next in the order ordained by nature, follow the CALVES; while the KIDS fall the last, and, being generally born in pairs, complete the full measure of the innumerable herd. Nothing then could be more happily illustrative of the gradual progress of the infant year, than the assigning to the *three constellations of the spring* the names of the three animals that are successively born to enrich and adorn it. The fervour of the SUN, when it leaves the sign CANCER, is justly represented by the fury of the LION. The full ears of corn in the hand of VIRGO, the sun-burnt maid of the sum-

mer field, immediately succeeding, denote the ripened harvest demanding the sickle. To these two signs of the zodiac, the Egyptians paid uncommon honour and attention; for the moment the SUN entered the LION, they knew that the great inundation from the Abyssinian mountains was rapidly approaching; and since that inundation continued in its strength two months at least, that is, during the whole time the SUN was passing through LEO and VIRGO, from this circumstance that nation, who represented every thing under the veil of mythology and hieroglyphics, formed the famous mystical figure of the SPHYNX, which had the head of a VIRGIN fixed to the body of a recumbent LION. Next in order of the signs of the zodiac, follows LIBRA, or the balance; and it would be impossible, observes the Abbé, with more exact precision to point out the equality of days and nights which the sun induces at the *equinox*, than by assigning to the constellation, through which the sun at that season passes, the significant appellation of the BALANCE. The train of *autumnal* diseases which advance as the sun recedes, are properly characterised by the SCORPION, an animal which leaves behind its rankling sting and deadly venom. SAGITTARIUS, or the archer, in as decided a manner denotes the season for the chase; for what could be more expressive of that sport, which so generally takes place at the fall of the leaf, than the figure of a HUNTSMAN, armed with a bow and arrows, the bow tightly drawn, and the arrow just ready to wing its flight? AQUARIUS bears a striking analogy to the rains and floods of winter; very aptly shadowed out in the celestial sphere by an human figure surrounded with marine animals, and pouring out water from his copious urn. The constellation of PISCES, or the fishes, is the last of the zodiac. They are represented as caught in a net, or connected by a line; and as SAGITTARIUS with his bow and arrow pointedly typified the season of the jocund sports of the chase at the commencement of WINTER; so the FISHES, in a similar manner, immediately and forcibly indi-

cate the approach of that season of the year, the SPRING, in which another favourite diversion commences, and in which the animals of the aquatic world are generally caught by the line, or the nets, of the fishermen.

I have purposely styled the hypothesis of this French writer *fanciful,* though ingenious, because I am far from a total approbation of that hypothesis ; and, in fact, as I shall presently have occasion to demonstrate in a review of the signs of the Egyptian zodiac itself, he has not justly represented the astronomical mythology of that nation. I cannot, indeed, join with Warburton in calling the HISTOIRE DU CIEL,* according to his usual method of treating all authors from whom he happened to differ in sentiment, " a philosophical romance ;" but M. le Pluche has undoubtedly gone too far in degrading the whole host of sidereal deities into mere symbols relative to the Egyptian festivals and husbandry ; since according to his own confession, the names of the constellations were assigned to them in a different country. Having occasion, however, to cite Macrobius, one of the most learned of the ancient Roman writers on the subject of the signs of the zodiac, I thought it might not be displeasing to the reader to be acquainted with the foregoing sentiments of a modern author, whose opinions are thus exactly correspondent to those of so celebrated a writer.

The history of the apparent progress of the sun through the signs of the zodiac was, then, the first history which excited human research, and exercised human invention ; and that all the first histories WERE the effect of INVENTION is, by this time, I apprehend, sufficiently evident. But what is the meaning of the word zodiac itself? It is immediately derived *to us* from the Greek ζωον, an animal ; and the Greeks themselves most probably derived the term from some Chaldee or Egyptian primitive. The arts and sciences,

* Warburton'e Divine Legation, Vol. II. p. 201.

as I have before remarked, and as will be more largely related hereafter, have been by some romantic authors supposed to have *originated* among that nation, to the recording of whose history, and the unravelling of its various and complicated volume, it is my intention to devote my future life. But this by no means appears to be the fact. The arts, originally, flowed from Chaldea to India and Egypt, and by those channels, throughout the world.

As astronomy is universally allowed to have been the first science cultivated by the curious sons of Adam ; it will consequently be admitted, that where the stupendous imaginary CIRCLE, representing the SUN's and MOON's path in the heavens, or in other words, the SOLAR and LUNAR ZODIACS, were first formed, the people inhabiting that country must have been, of all others, the most ancient. But the Chaldeans first invented those zodiacs, and their solar zodiac originally consisted of constellations either entirely formed of animal figures, human, and bestial; or compounded of both, like that of SAGITTARIUS, with various illustrative symbols. Many of these figures bore an immediate reference to the gradual growth and increasing power of the SOLAR HEAT, and the vicissitudes and influences of the revolving seasons. But, farther, under the veil of the hieroglyphic figures engraved on the celestial sphere, and particularly on the zodiac, it is my humble opinion, and I hope hereafter to be able to establish the fact, that much of the history and theology of the ancient world is shadowed out, and that they were intended to be typical of the first heroes, and of the early events of the Chaldeans, the race of Noah ; that is, in fact, THE SONS OF THE SUN, in the very same manner as the Greeks, in after ages, had the daring ambition and the profound policy to represent the figures pourtrayed on the zodiacal circle as descriptive of their own history, and allusive to their own mythology. But it may possibly be urged that LIBRA, or the balance, is neither an HUMAN nor a BES-

TIAL figure, and therefore this hypothesis cannot be supported. To this objection Mr. Costard* enables me to reply, that the original Chaldee zodiac consisted only of ELEVEN signs; for, by them, the constellation in the heavens which is now called Libra, was reckoned a part of Scorpio, and was composed of a portion of the CLAWS of that animal, at that time of far more formidable extent. Hence Libra is, even at this day, sometimes called CHELÆ, which will help still more clearly to explain the passage of Virgil cited in the second volume of the Indian Antiquities, and which it becomes necessary once more to present to the eye of the reader. Virgil thus servilely compliments Augustus Cæsar:

> Anne novum SIDUS tardis te mensibus addas
> Qua locus Erigonem inter CHELASQUE sequentes
> Panditur. Ipse tibi jam Brachia contrahit ardens
> SCORPIUS, et cæli justa plus parte reliquit.†

For the Scorpion, Mr. Costard adds, according to this division, taking up the space of two signs, had more of the heavens than properly fell to its share. The prince of astronomers, Sir ISAAC NEWTON, a name ever to be mentioned with admiration and reverence, corroborates the evidence of Mr. Costard relative to this innovation in the original zodiac, where he informs us that Chiron placed the solstitial and equinoctial points in the fifteenth degrees of the constellations Cancer, CHELÆ, Capricorn, and Aries. A passage immediately follows in Sir Isaac, which incontestably proves the use of astronomy in elucidating history; for, from Chiron's having thus fixed the position of the solstitial and equinoctial points in the year 939, and from METON's observation in the year of Nabonassar 316, that the summer solstice was then in the eighth degree of Cancer, on a retrogressive calculation, he has been enabled to fix with precision the æra of the Argonautic expedition. His argument is thus founded: During the interval which elapsed

* Costard's Astronomy, p. 19.

† Georg. I. 33.

between the celestial observations made by these two ancient astronomers, he remarks,* that the SOLSTICE had gone back seven degrees: now the solstice recedes one degree in about SEVENTY-TWO YEARS, and seven degrees in about 504 years. By counting these years back from the year of Nabonassar 316, the result will be, that the Argonautic expedition took place about 936 years before Christ. I have particularly marked in small capitals the SEVENTY-TWO YEARS during which period, he asserts, the solstice goes back one degree, because, in the end, we shall probably find in this circumstance a solution of the mystery before alluded to, relative to the SEVENTY-ONE years during which every MENU of BRAHMA is believed in India to preside over the world.

The very remarkable circumstance mentioned before of the disagreement of the seasons and mythology of Egypt with the signs of the zodiac, as they have been delivered down to posterity by Ptolemy, seems to offer to us decisive evidence that the Egyptians were *not* the inventors of them: though it is not improbable that they might have formed a zodiac better adapted, in the instance of several of the signs, to their own climate. In fact that zodiac, preserved for posterity among the rich treasure of antiquities in the museum of the Barberini family at Rome, is engraved in the Œdipus Ægyptiacus, and opens a very wide field for reflection to the mythologist. From an Oriental historian, it amply merits that more particular examination, which it is my intention to bestow upon it, after I have dispatched the interesting subject more immediately before us, the Indian chronology.

It would have been impossible for me, who am no great proficient in the deep and complicated science of Oriental astronomy, to have gone into any more extensive investigation of this subject than has already been submitted to the reader, but for the fortunate arrival in England, during the period of my writing these pages, of the

* Newton's Chronology of Ancient Kingdoms amended, p. 25.

second volume of the Asiatic Researches. As the public were previously taught to expect in this volume an ample account of the CHRONOLOGY OF HINDOSTAN, it had long been the object of anxious expectation by those interested in that important discussion. The small number of copies which at length arrived, and the impatience of that part of the public whose eyes are more particularly turned towards India for the result of the inquiries of the President, have induced me to enter at far greater detail than I at present intended upon this complex but curious subject; as well as to anticipate many observations which I meant to reserve for an express treatise on the LITERATURE of the Hindoos. These observations, however, I must repeat it, are not foreign to, but intimately connected with, the mythological antiquities and remote history of India; will illuminate our gloomy path, and guide us through the intricate maze; a maze more than sufficiently toilsome to myself, but, I fear, doubly so to my reader.

It gave me the highest satisfaction to find, on the perusal of that volume, that the plan which I had pursued in attempting to account for the immense periods of the Indian YUGS was so far founded in propriety, that what had been already committed to the press on this intricate subject there was no necessity to cancel, or even, materially, to alter. Of that plan it is necessary that we should take a short retrospective view.

The reader will have the candour to recollect, that upon the wild reveries of SUPERSTITION, blended with the abstruse speculations of ASTRONOMY; upon the abject servility of the VULGAR, trampled down by tyranny, and the baser flattery of the PHILOSOPHER, pensioned from the treasury, and dignified by the smile of royalty; upon the extravagant assumptions of NATIONAL PRIDE, and the eager emulation of RIVAL KINGDOMS; upon these combined circumstances was founded the hypothesis by which I meant to regulate my own decisions, and direct the opinions of my reader. I took an

extensive review of the operations of these various causes upon the manners and sentiments of the people of the ancient world, and from certain passages in Abydenus, Syncellus, and Julius Firmicus, endeavoured to evince the futility of the claims to unfathomable antiquity of the Chaldeans and Egyptians; claims advanced upon no basis more solid than certain calculations, and those not very accurate, of the periods in which the more considerable of the celestial bodies perform their grand revolutions. To the various quotations previously extracted by means of the Ayeen Akbery, from that celebrated Sanscreet treatise on the most ancient Indian astronomy, entitled Surya Sudhanti, and the remarkable information relative to the Indian chronology adduced, the former from Quintus Curtius, the latter from Mr. Wilkins, it was my original intention to have added some very curious observations concerning the Indian year, by that most eminent and profoundly learned chronologist JOSEPH SCALIGER, the great inventor of the JULIAN PERIOD, to whom the Oriental, as well as the Greek and Latin writers on the subject, were familiarly known. I had likewise prepared to lay before the reader very ample extracts from the extensive disquisition into which Dr. Hyde has entered relative to the Persian, the Indian, the Kataic or Tartar, and Chinese year.* By the arrival, however, of this valuable repository of Indian science, chronological as well as astronomical, all other books on these subjects are for the present superseded; though in some succeeding strictures of a general nature, on the pretended antiquity of the Asiatic nations, the remarks of both those authors will prove of material use. The desired information is contained in four distinct treatises; the first, by the President, is expressly upon the Chronology of the Hindoos; the second, by Samuel Davis, Esq. treats of their astronomical computations; the third, likewise by Sir William Jones, discusses

* Vide Hyde, Hist. Rel. Vet. Pers. p. 212. Indeed the whole of his eighteenth chapter is entirely devoted to the consideration of this subject.

the subject of the Antiquity of the Indian Zodiac; and the fourth, by the same gentleman, is denominated a Supplement to the Essay on the Chronology. The first only of these treatises will constitute the object of our more immediate attention.

Sir William commences his review of the Indian chronology with again declaring that he is atttached to no *particular system*, but is as much disposed to reject the MOSAIC history if it can be proved erroneous, as to believe it, if to be confirmed by sound reasoning from indubitable evidence. He intimates that no possible danger can arise to society from the general diffusion of the light of TRUTH; but that we ought not to suffer ourselves to be dazzled by a false glare, nor mistake enigmas and allegories for HISTORICAL VERITY. The question to be decided, he observes, is, "Whether the chronological system of the Hindoos be not, in fact, the same as our own, but embellished and obscured by the fancy of their poets, and the riddles of their astronomers." From the first chapter of a famous Sanscreet work, only inferior to the VEDAS themselves in antiquity, and taken, as the Brahmins believe, from the oral instructions of MENU, son of BRAHMA, to the first inhabitants of the earth, the President has selected a passage that contains a very curious and important piece of information. In this extract we arrive at once at the information which, in fact, I expected; that the Hindoo chronologists make a distinction between *the day and night of the gods*, and *the day and night of mortals*." "A month is a day and night of the patriarchs, and it is divided into two parts; the bright half is *their* day for laborious exertions, the dark half *their* night for sleep. A year is a day and night of the gods, and that is also divided into two halves; the day is, when the sun moves towards the north; the night, when it moves towards the south. Learn now the duration of a day and a year of Brahma, with that of the ages respectively and in order. Four thousand years of the gods they call the SATYA YUG; and its limits at the beginning and at

the end are, in like manner, as many hundreds. In the three successive YUGS or ages, together with their limits at the beginning and end of them, are thousands and hundreds diminished by one. This aggregate of four ages, amounting to twelve thousand divine years, is called an age of the gods; and a thousand such years added together must be considered as A DAY OF BRAHMA: his NIGHT has also the same duration. The beforementioned age of the gods, or twelve thousand of their years, multiplied by SEVENTY-ONE, form what is called a MANWANTARA. There are alternate creations and destructions of worlds through innumerable MANWANTARAS."* Upon the former part of this passage Sir William cites the conjecture of Mr. PATERSON, equally ingenious and elucidatory; "That as a *month* of mortals is a day and night of the patriarchs, from the analogy of its bright and dark halves; so, by the same analogy, a day and night of mortals might have been considered by the ancient Hindoos as a month of the lower world; and then a year of such months will consist only of twelve days and nights, and thirty such years will compose a lunar year of mortals: whence Mr. Paterson surmises the four million three hundred and twenty thousand years, of which the four Indian ages are supposed to consist, mean only YEARS OF TWELVE DAYS; and, in fact, that sum, divided by thirty, is reduced to an hundred and forty-four thousand. Now a thousand four hundred and forty years are one PADA, a period in the Hindoo astronomy, and that sum, multiplied by eighteen, amounts precisely to TWENTY-FIVE THOUSAND NINE HUNDRED AND TWENTY, the number of years in which the fixed stars appear to perform their long revolution eastward."†

In illustration of the latter part of this very curious passage from

* Asiat. Research. vol. II. p. 112. Compare this with a curious passage cited in page 314 of the Indian Theology.

† See Asiat. Research. vol. II. p. 113. And compare this passage with that in a preceding page, cited from Syncellus.

the sacred book of Menu, Sir William proceeds to observe, "that this important period of twenty-five thousand nine hundred and twenty, is well known to arise from the multiplication of three hundred and sixty," (which the reader will remember is the amount of the days of the ancient year) "into SEVENTY-TWO, the number of years in which a fixed star seems to move through a degree of a great circle; and, although M. Le Gentil assures us that the modern Hindoos believe a complete revolution of the stars to be made in twenty-four thousand years, or fifty-four seconds of a degree to be passed in one year, yet we may have reason to think that the *old Indian astronomers had made a more accurate calculation*, but concealed their knowledge from the people under the veil of FOURTEEN MANWANTARAS, SEVENTY-ONE divine ages, compound cycles and years of different sorts from those of BRAHMA to those of PATTALA, or the infernal regions. If we follow the analogy suggested by MENU, and suppose only a day and a night to be called a YEAR, we may divide the number of years in a divine age by three hundred and sixty, and the quotient will be twelve thousand, or the number of his divine years in one age: but, conjecture apart, we need only compare the two periods 4320000 and 25920, and we shall find that, among their common divisors are 6, 9, 12, &c. 18, 36, 72, 144, &c.; which numbers, with their several multiples, especially in a decuple progression, constitute some of the most celebrated periods of the Chaldeans, Greeks, Tartars, and even of the Indians. We cannot fail to observe that the number 342, which appears to be the basis of the Indian system, is a sixtieth part of 25920, and by continuing the comparison we might probably solve the WHOLE ENIGMA."*

The reader must by this time have gained a sufficient insight into the nature of the Hindoo CHRONOLOGY, and of the principles upon which it was composed by an artful and imperious race of philoso-

* Asiat. Research. vol. II. p. 114.

phers, whose aim was to *bind, and to keep bound*, in the fetters of superstition and ignorance, the three inferior tribes, of which the gross of the nation is formed. To finish, however, the portrait, and to annihilate for ever any impious system of opposition to the express words and superior authority of holy writ, which Infidelity, triumphing in the supposed antiquity of the earth and of mankind, might be inclined to erect upon a basis apparently so strong, but in reality so weak, as that chronology, I shall insert a farther quotation of the President, from the preface to an ancient professed register of Indian time, a Varanes (that is, a Benares) almanac. This curious specimen of their mode of computing time, the reader may, if he pleases, compare with a passage cited in a former page from Mr. Scrafton, relative to a modern almanac of India, and he will plainly perceive how deeply both are tinctured with that species of romantic superstition to which speculations in astronomy particularly give birth, and be convinced, by the comparison, that all hypotheses formed upon such principles cannot possibly be more substantial than castles erected in the air. It seems to have been *a motto*, and is full as expressive and wonderful as any prefixed, in modern times, to the redoubted productions in this way of Wing or Partridge. "A thousand GREAT AGES are a day of BRAHMA; a thousand such days are an Indian hour of VEESHNU; six hundred thousand such hours make a period of RUDRA; and a million of RUDRAS (or two quadrillions, five hundred and ninety-two thousand trillions of lunar years,) are but a SECOND to the Supreme Being." It is in vain that some of the more sensible among the Brahmin theologians "deny the conclusion arising from this exaggerated narration, assert that TIME exists not at all with GOD, and advise astronomers to mind their own business, without meddling with theology." A VYASA and a SOCRATES, arising in a depraved age and boldly stigmatizing the blind credulity and degrading superstition of their countrymen, are not to be put in competition with

thousands beside that in every successive age have adopted and propagated such absurd tenets. This astronomical stanza evinces, that "cyphers are added at pleasure to swell the periods, and if we take ten cyphers from a RUDRA, or divide by ten thousand millions, we shall have a period of 259200000 years, which, again divided by 60, (the *usual divisor** of time among the Hindoos) will give 4320000, or a GREAT AGE; which we find subdivided in the proportion of 4, 3, 2, 1, from the notion of virtue decreasing arithmetically in the *golden, silver, copper,* and *earthen* ages. But should it be thought improbable, that the Indian astronomers in very early times had made more accurate observations than those of Alexandria, Bagdad, or Maraghah, and still more improbable that they should have relapsed without apparent cause into error, we may suppose that they formed their divine age by an arbitrary multiplication of 24000 by 180, according to M. Le Gentil, or of 21600 by 200, according to the comment on the Surya Sudhanti."†

Allowing, however, for some *more than usual rhodomontade* in this old adage, let us finally state the avowed opinions of the Hindoos.

"The aggregate of the four YUGS they call a DIVINE AGE, and believe that in every thousand such ages, or in every day of Brahma, fourteen MENUS are successively invested by him with the sovereignty of the earth. Each MENU, they suppose, transmits his empire to his sons and grandsons, during a period of SEVENTY-ONE divine ages; and such a period they name a MANWANTARA: but since *fourteen*, multiplied by *seventy-one*, are not quite a thousand, we must conclude that six divine ages are allowed for intervals between the Manwantaras, or for the twilight of Brahma's day. Thirty such days or CALPAS constitute, in their opinion, a month

* The great solar cycle of the Chinese, it will be remembered, also consisted of 60 years, thence called SEXAGENARY. See Martinii Sin. Hist. p. 31

† Asiat. Research. vol. II. p. 115.

of Brahma ; twelve such months one of his years ; and an hundred such years his age ; of which age they assert that fifty years have elapsed."*

Among abundance of dross it is not impossible that there may be much *pure ore.* The Brahmins, amidst their extensive and unwearied researches in astronomy, doubtless made some important and early discoveries in that science ; and this will presently appear to be the fact, in a degree that will not fail to raise in the mind of the reader equal admiration and astonishment : but hence there arises no necessity for pronouncing that they flourished a great and scientific nation before the epoch of the *Mosaic creation.* I have asserted that the first histories of the world regarded *celestial* rather than *terrestrial* objects ; that the fictitious story of Osiris marching over, subduing, and fertilizing the earth, and instructing its various inhabitants in the arts of husdandry, and in the principles of civilization, was principally to be understood of the SUN performing round the globe his annual apparent revolution, warming and fertilizing, as well as illuminating and invigorating, in its progress, the different regions of it ; and that in the constellations are to be read, by the philosophical and penetrative eye, A CONSIDERABLE PART OF THE HISTORY, THEOLOGICAL AND CIVIL, OF THE ANCIENT WORLD. I shall now, with great deference to better scholars and maturer judgments, proceed to submit to the reader the various circumstances, a minute attention to which induced me to make that assertion, and which, I trust, will in a great measure warrant the hazarding of it. Previously, however, to entering upon a subject of which conjecture must after all engross so large a portion, let us examine what, from undoubted classical authority, can be depended upon in this science. From this examination we shall be able more clearly to perceive the extravagance of claims that at once combat all serious history, and set all the systems of chronology at present received among mankind at defiance.

* Asiat. Research. vol. II. p. 116. See the frontispiece of this volume.

CHAPTER V.

The Author, enlarging his Retrospect towards the Annals and Events of other Asiatic *Kingdoms, with which those of the vast Empire of* India *are so intimately connected, proceeds to the Discussion of a Question previously proposed; Whether there were not, in the remotest Ages, a more* ancient Sphere *than that which has descended to us from the Greeks: a Sphere allusive to an earlier Mythology, to the Transactions of a more Ancient Race—To investigate with proper Attention this important and novel Subject, he in this Chapter advances, with Mr.* Costard, *an Astronomer of equal Celebrity and Learning, upon the firm Ground of* classical Antiquity, *and considers in a summary Manner what the best Greek Writers have asserted relative to the Rise and Progress of Astronomy in* Greece—*He then traces the Progress and Improvement of that Science in Arabia, and Europe—The whole intended as preparatory to an Examination of the hieroglyphic Figures engraved on the Celestial Sphere, and of the Oriental* solar *and* lunar *Zodiacs, in the subsequent Chapters.*

Convinced that the ancient history of India, undertaken upon that comprehensive scale in which I have engaged in it, comprizes a very great part of the history of the other extensive empires of Asia, and induced by what has been previously detailed concerning the intimate union subsisting in very remote æras, between astronomical and civil history, to consider many of the most important events of the early ages of the world, as alluded to by the hieroglyphic figures engraved on the celestial sphere, I now come to that elaborate and hazardous portion of this work, in which the arguments necessary to establish that hypothesis are to be produced.

It is an hypothesis which will, at first sight, appear to be nearly as chimerical as that on which the Brahmin chronology is founded; since it gives for the original fabrication of that sphere an æra nearly as remote as the deluge, and excludes not even the mixture of ante-diluvian sciences with those cultivated in the earliest post-diluvian ages. I contend, however, for no more than the Greek writers have contended for, who insist that the history of the earliest events of their empire, and the most illustrious personages who flourished among them, may be found upon the same sphere. Now, if it can be proved that the Greeks borrowed their astronomy, not less than their mythology, from a race who flourished in ages of more remote antiquity; if Chaldea presents us with a more ancient *sacrificer* on the sphere than the fabulous Chiron, and Egypt with a *baris,* or sacred vessel, prior to their boasted Argo; if in Phœnicia, we find an older *Hercules;* and in India, under the title of Buddha, a more venerable *Hermes;* impartial justice must incline us not to refuse the claims of the more ancient race, or rend from them the deserved laurel, to place it on the Grecian brow. It is not, however, to the determined sceptic that these pages are particularly addressed; nor will demonstration be attempted where probability is the utmost possible point within the reach of hope. The subject is not only in its nature very abstruse, but very diffusive in its extent. To investigate it thoroughly, it is necessary for us to take a wide excursive range in the annals of history, and in the page of science. I shall briefly state the plan which I purpose to pursue in this discussion, and point out the high authorities whence my information will principally be derived.

The assistance which I received, during these inquiries, from the second volume of the Asiatic Researches was considerable; but there is another valuable source of information to which I must likewise confess my obligations. I have repeatedly mentioned with that respect which the work doubtless claims from astronomers,

Mr. Costard's General Treatise upon Astronomy, of which the part that treats of the astronomy of the Arabians was thought by the gentlemen who published at Calcutta the Asiatic Miscellany, to be so highly illustrative of Oriental knowledge, that they have inserted it at length in their useful repository. But there remains a still nobler monument of that writer's profound learning, laborious inquiry, and critical correctness, on astronomical subjects, displayed in four letters to Martin Folkes, Esq. President of the Royal Society; in which he professedly treats of the rise and progress of astronomy among the ancients; and, what hereafter will be more particularly to our purpose, concerning that of the Chaldeans. The first of these letters was published at London in 1746; the three last at Oxford in 1748: and since they are both very scarce and very curious, the reader will consider himself indebted to me for presenting him with the substance of them; for Costard possessed piety unclouded by superstition, and philosophy unstained with infidelity. The reader will observe that those letters were written before the high assumptions of the Brahmins, founded on astronomical calculations, were divulged in Europe; although this gentleman himself, in a masterly essay, published in the Philosophical Transactions, attacked and overturned the pretended antiquity of the arts and sciences in China.

Upon this subject, therefore, I shall first advance, with Mr. Costard, upon the firm ground of *classical antiquity*, and, guided by the letter which appeared earliest, consider the rise and gradual improvement of astronomy in Greece I shall then trace its progress through Arabia and Europe. Quitting Mr. Costard on the Greek and Arabian astronomy, I shall afterwards consider what he has advanced in his three remaining letters, that point to periods *beyond those of classical antiquity*. With the additional assistance of Stanley, Kircher, and Hyde, I shall endeavour to penetrate into ages and regions still more obscure and mythological than even the

Grecian, and consider the CHALDAIC, the EGYPTIAN, and the PERSIAN, most ancient systems of astronomy. I shall compare the several accounts and obsolete names recorded by those authors, not only of the signs of the zodiac, which they have severally exhibited, but of the greater part of those forty-eight grand constellations into which, according to Ptolemy, the ancients divided the visible heavens, and examine how far they may be considered as allusive to, or illustrative of, the earliest events and primeval history of the world. I shall, throughout this extensive survey, illustrate the observations of these authors, by such reflections as have occurred to me during an attentive perusal of what is submitted to the public consideration on the subject of ancient INDIAN astronomy by Sir William Jones, Mr. Davis, Mr. Burrow, and other gentlemen, in the second volume of the Asiatic Researches; and the result, I trust, will be a more ample elucidation of many obscure parts in the ancient history of Asia, than has been hitherto attempted.

Mr. Costard, in the commencement of his Letter on the Rise and Progress of Astronomy, arguing from the united evidence of Scripture, tradition, and history, fixes the first observations of the celestial bodies in Chaldea and Egypt. He is of opinion, that there might have been at some remote period of time a different sphere from what we at present possess; and, indeed, in a succeeding letter, he gives us the names of one or two constellations that might possibly have adorned it; but he adds, that all this part of Eastern astronomy has been long since, if not totally lost, greatly obscured by the prevalence in Asia of the ARABIAN, and in Europe of the GRECIAN, systems of astronomy. It will possibly startle the admirers of Grecian antiquities, and the advocates of Arabian learning, to hear that these were the latest people of antiquity who cultivated the noble science of astronomy. From the repeated confessions, however, of their own writers, we learn that the Greeks derived from Egypt all their knowledge of the motions and phænomena of

the heavenly bodies. Thither, studious of the arts, and ambitious of raising the national fame, the immortal band of Grecian philosophers, in the earliest periods, successively resorted, and, amidst the colleges of Thebes and Heliopolis, drank deeply of the pure fountain of heaven-born science. That ingenious people, soon after they, by this means, became acquainted with the principles of astronomy, in so rapid and wonderful a manner improved it, as to make it appear their own invention; and it was from the Greeks, in an æra comparatively recent, that the Arabians derived all their information in the principles of this art.

Who were MUSÆUS, ATLAS, and CHIRON, in what particular periods they flourished, and what were the spheres they are said to have formed, is a point involved in too much obscurity to be now resolved; and Mr. Costard has not attempted to resolve it. He imagines, however, that they were only *observers*, and that their efforts towards forming any sphere must have been of the rudest kind, as is sufficiently evident from a passage which he cites from Pausanias relative to one Bupalus, a Smyrnæan, who made a statue of Fortune with a POLE upon its head.* By the boasted sphere of Chiron, he thinks that nothing more is to be understood than a BROAD CIRCLE representing the season, or order of the heliacal risings of such stars as the Greeks were then acquainted with, and such alone as were more peculiarly useful to them in their pursuits of agriculture. When navigation on the vast ocean was attempted, and the Argonautic expedition was undertaken, their astronomical knowledge was necessarily extended, and greatly improved. How little, however, was known in the time of Hesiod, the oldest Greek author who says any thing relative to the constellations, is evident from that writer's mentioning only five, which are Sirius, Orion, Arcturus, Pleiades, and the Hyades, of which the two former are

* See Pausanias, p. 140. Edit. 1583. See also Costard on the Rise of Astronomy among the Ancients, p. 56. Edit. London, 1746.

apparently of *foreign* original.* From the similar silence of Homer, who mentions only two constellations, in addition to those just named, that is, Bootes and the Wain, it would appear that the catalogue of the stars in his time was not much enlarged. From the following line of the Iliad,

Οἴη δ' αμμορος ἐςι λοετρῶν 'Ωκεανοῖο,†

he is of opinion that, when Homer flourished, no constellations had been formed to the northward of the Great Bear; Homer, indeed, mentions Hesperus, but whether it was at that time considered as a fixed star, or a planet, Mr. Costard thinks it extremely uncertain. The discovery of the Lesser Wain is generally ascribed to Thales; in whose time astronomy began to be first studied in Greece as a regular science. It is not a little curious to remark how early the Greeks blended fable with this, as with all the other sciences which they cultivated. For instance, our astronomer intimates that from Endymion's particular attention to the vicissitudes of the moon, the fiction arose of that planet's falling in love with him; and that the vigilant observations which Atreus made on the revolution of the sun, and his marking, in a rude manner, the SOLSTICE, gave occasion to the fable of that orb's GOING BACK at the entertainment which he gave to his brother.

THALES was the first Grecian sage who travelled into Egypt, about 600 years before Christ, whence he returned to his native country full fraught with all the various treasures of Egyptian science, but, in particular, deeply versed in the arcana of their astronomy. Thales indeed may be called the prince of the venerable race of their philosophers. It was he who first asserted, in Greece, that WATER was the grand principle of all things. It was he who, either from his own observations, or the instructions he received from his Egyptian masters, taught the Greeks the true time of the

* Vide Hesiod, lib. 2. 1.

† Hom. Ilias, 18. 489.

EQUINOX, and the exact length of the TROPICAL YEAR. Thales is affirmed by Herodotus* to have been the first Grecian who predicted an ECLIPSE of the sun; and to the same inventive genius is ascribed the fabrication of those great imaginary zones that gird the CELESTIAL SPHERE. Mr. Costard, however, doubts the truth of this latter circumstance. He observes that, in that infant state of astronomy, it is highly improbable that the HEAVENS were so accurately marked out by lines and circles, and thinks there is far more truth in Strabo's assertion, that Parmenides invented the TERRESTRIAL ZONES.

His scholar and successor, ANAXIMANDER, flourished in the year before Christ 568, and taught that *the earth was of a spherical form, and situated in the centre.* To him the invention of the GNOMON has been ascribed; but Mr. Costard is of opinion that he only imported it from Babylon into Greece, and there first applied it to the marking of the TROPICS and EQUINOXES. Anaximander is said to have first made that important discovery, the OBLIQUITY OF THE ECLIPTIC.

In the year before Christ 535 flourished the great philosopher PYTHAGORAS, of whose travels into Egypt and the superior Asia, and the theological and philosophical opinions acquired by him during those travels, having, in the Indian Antiquities, taken rather an extensive survey, I need not in this place be minutely particular. Both Pythagoras himself and his disciples were zealously devoted to the study of astronomy; and the true system, which places the SUN IN THE CENTRE, afterwards with less justice ascribed to Copernicus, was first propagated in Greece by this philosopher. I have before hinted, that he probably gained this information from INDIA: and the following reason for having done so, will, I trust, satisfy the reader. The circumstance itself exhibits to posterity a phænomenon far greater than any which the heavens at that time afforded.

* See Herodot. p. 29, cited at length by Costard, p. 93.

It is evident that the Egyptians were not, at that period, acquainted with the true system of the world, for, if they had been acquainted with it, how was it possible for Plato, who travelled into Egypt near 200 years later, and consulted those philosophers, to have been ignorant of it, as it is evident he was, from a passage cited by Mr. Costard from Laertius, that he placed "the EARTH in the centre, with a diurnal motion about its own axis, in the next place the MOON, then the SUN, and last of all, the orbits of the planets?"* Or, what must appear a still stronger argument, how was it possible for Ptolemy, *an Egyptian*, to have formed tables upon different principles near 400 years afterwards? for to suppose that they *did* know it, and yet embraced and publicly taught a *worse* system, would evince the most absurd conduct in a race of philosophers the most renowned for their attainments in human wisdom. The very same argument may be adduced in proof, that even Pythagoras himself but obscurely conceived, or very inaccurately taught his scholars, the system falsely attributed to his sole invention.

It has been observed before, that Hesperus, or the planet Venus, was known to Homer; but Pythagoras, Mr. Costard is of opinion, first found out the circular motion of that planet, since he declared *that Phosphorus and Hesperus were the same.* However, in decisive evidence that there existed in some parts of Asia a much more ancient and improved astronomy, it may be urged, that Isaiah, who, according to archbishop Usher, flourished in the year before Christ 757, had already noticed that conspicuous orb by the title of HEILAL, or LUCIFER, *son of the morning.*† It was not till this late period, Mr. Costard asserts, that the motions of the planets began to be observed in Greece, and *geometry* to be applied to the purposes of astronomy, which, *as far as appeared to him,* had not hitherto been attempted by the Egyptians and Babylonians; and yet without

* Laertius in Vita Platonis, cited by Costard, p. 121.

† Isaiah, chap. xiv. ver. 12.

this, he justly observes, it could never have been reduced to a science. Geometry, however, long before this, as will hereafter be proved, was applied to the same purpose in India, and thence arises a second strong argument in favour of the foregoing assertion, relative to the real country whence Pythagoras obtained his knowledge of the true system; if, in fact, he had ever himself obtained, or promulgated to his disciples, any perfect conception of it. A cursory observation is in this part of his treatise made by Mr. Costard, which coincides so remarkably with the system I have adopted, that I must beg leave to transcribe it in his own words. "By such easy gradations did the Greeks proceed, and from such small beginnings; till, in the time of EUDOXUS, or the year before Christ 363, there might be read in the HEAVENS THE ANCIENT HISTORY OF THEIR MOST ILLUSTRIOUS FAMILIES DURING THE POETICAL AGES." I shall, however, presently endeavour to prove that they contained no small share of the history of a race far more ancient than that of Greece, before poetry had begun to degrade all genuine history into fable.

Whether Pythagoras had or had not just conceptions of the mundane system, it is certain that PHILOLAUS, one of the most celebrated of the Pythagorean sect, who flourished 374 years before Christ, had; since that philosopher, clearly, however unsuccessfully, taught and demonstrated "that the earth moved in an orbit round the sun, according to the order of the signs." Cleostratus, who flourished about this period, is said by Pliny* to have first formed the signs of the zodiac. He was a great geometrician, physician, and law-giver, but whatever fame he possessed is eclipsed by METON the Athenian, who invented the famous lunar cycle of nineteen years, called from his name METONIC. It contains 6940 days, and has in it seven intercalatory months: in which time the new and full moons are supposed to return to the same day of the Julian year. The Metonic

* Plin. Nat. Hist. lib. 2. cap. 8.

cycle, however, I can assert on Mr. Burrow's authority, was long before this period known in India, and in fact differs very little from the old SAROS of Chaldea, whence it is probable all astronomy was originally derived.

As I have before related many particulars of the life of Plato, the immortal founder of the Academic sect, no additional account of that philosopher need be inserted in this place. Dr. Long has justly observed, that astronomy owes but little to the Academic, and still less to the Peripatetic philosophers.* This great man's embracing the system since called PTOLEMAIC, in preference to the Pythagorean, is not less astonishing than true. Plato was, however, a profound mathematician, and particularly assiduous in cultivating those two abstract branches of the mathematics, arithmetic and geometry.

Every Grecian name, however previously eminent in astronomy, is in fame far exceeded by that of the great EUDOXUS, of Cnidos, who first formed the celestial sphere of Greece; or rather, as I shall hereafter prove, brought it from Egypt, and new modelled it to suit the Grecian history and mythology. Eudoxus too was the first who, in Greece, assigned its position to the EQUINOCTIAL COLURE; and although this, as Mr. Costard has shewn, is inaccurately done, it is still a mark of his indefatigable exertions to promote the improvement of his favourite science. He has indeed been called by Cicero, the prince of the Grecian astronomers; and was, according to Dr. Long, undoubtedly the first Greek who applied geometry to astronomical purposes. The period at which he flourished was about 360 years before the Christian æra. On the observations of Eudoxus, the following most judicious and important reflection is made by the same writer, which I beg permission verbatim to transcribe, for the very same reason that induced me to make the preceding quotation. "After all, it is very doubtful whether the

* Long's Astronomy, vol. II. p. 674. I find it necessary occasionally to illustrate Mr. Costard's very brief account by this author's more extended animadversions.

sphere of Eudoxus was not taken from one more ancient, as, for instance, that of CHIRON, THE CENTAUR; because, if the places of the stars had been taken from observations made by himself, all the constellations would have been farther advanced by HALF A SIGN than they are described to be in his writings." To what venerable personage in antiquity the true character of Chiron the Centaur is most applicable, from a variety of circumstances, may be easily comprehended. Κενταυρος literally signifies *the goader of the bull*, being derived from κεντεω *stimulo*, and ταυρος *taurus*. It most probably, therefore, alluded to him who first yoked to the plough, and goaded on to his daily task, the reluctant bull. There cannot be a more picturesque description of the great patriarch who built the first altar after the deluge; made the first sacrifice thereon; and first instructed mankind in *agriculture*. The subject shall be amply discussed in the next chapter; when the more conspicuous figures on the Oriental sphere come to be examined.

To ARISTOTLE, it was before observed, astronomy was not at all indebted, since he implicitly followed the Platonic, that is, the Ptolemaic system. "How much is it to be lamented," observes Dr. Long, "that the observations of 1900 years, transmitted to him by Calisthenes from Babylon, a treasure in practical astronomy which was probably inestimable, and of which Aristotle was fully acquainted neither with the use nor the value, did not happen to fall into the hands of his contemporary Eudoxus!" *It was in the* Alexandrian school, and under the powerful patronage of the Ptolemys in Egypt, that astronomy was most assiduously and successfully cultivated by the ancients. At that time the observations of philosophers, which, till the period of its commencement, about three centuries before Christ, had been vague and inaccurate, began to be made with more precision; and of that precision two remarkable instances are recorded in Dr. Long, viz. That Timocharis, in the year before Christ 295, noted down, that *the moon then just touched*

the northern star in the forehead of the SCORPION; and that Aristyllus, in A. C. 272, observed that the planet Venus *hid the former star of the four in the left wing of* VIRGO.

In this short sketch of genuine astronomy according to the Greek writers, the names of ARATUS, of ERATOSTHENES, and even of the great ARCHIMEDES, the Newton of antiquity, must be rapidly passed over, that we may arrive at the more celebrated period in which HIPPARCHUS, the Rhodian, according to the Greek writers, *first* formed a regular catalogue of the fixed stars, an undertaking, says Pliny,* worthy of a god, which has been faithfully transmitted to posterity by Ptolemy. Hipparchus, we are informed by the same Pliny, was induced to make this catalogue by the appearance in his time of a *new star* in the heavens, in order that from thence posterity might discover whether any of the stars perished and were renovated; or whether they had motion, and what might be their direction. He, indeed, is said first to have discovered that slow motion of the stars from west to east, which is now denominated the *precession of the equinox;* but I request the reader to notice a circumstance of material importance in this disquisition, that it is expressly asserted by Mr. Costard, from Ptolemy's Syntaxis, "that he collected all the accounts of eclipses he could meet with among the Babylonians, and all their celestial observations;" so that from Hipparchus, through the care of Ptolemy, we are in possession of the Chaldean astronomy, and our sphere, therefore, is properly not EGYPTIAN, but CHALDEAN. It is worth while remarking in this place, that the catalogue of Hipparchus contains 1022 fixed stars; that of Flamsteed above 3000; while the amazing powers of Dr. Herschel's grand telescope enabled him to discover, in the space of a few degrees only, no less than 44000.

PTOLEMY of Pelusium, the author of the system which bears his name, and who flourished in the first century of the Christian æra,

* Plinii Nat. Hist. lib. 1. cap. 26, p. 15. Aldi edit.

closes the respectable list of the more ancient Greek astronomers, and he is the only one of them all whose works have descended unmutilated to posterity. He completed and improved the catalogue of the fixed stars which Hipparchus began, and it is in his celebrated composition, called ALMAGEST, that we find all the labours and discoveries of those who flourished before him in this science collected and elucidated. This work was originally entitled Συνταξις Μεγιςη, that is, *the greatest collection,* which in fact it is, of problems in geometry, geography, and other branches of the mathematics, that ever was before made. When the Συνταξις was first translated about the year 800, from Greek into Arabic, the Arabians, adding the particle AL to the word Μεγιςη, called it, in their own language, ALMAGISTI, and since that period it has been generally known by the latter title. It is divided into thirteen books, which take in the whole compass of astronomy as far as it was at that time known. Notwithstanding the erroneous principles upon which the Ptolemaic system is founded, it must ever be considered as a wonderful proof of human genius and exertion, as well as an invaluable repository of many of the most ancient opinions and observations in astronomy. Ptolemy, indeed, was not only an indefatigable collector and reporter of the opinions of others, but a most diligent and strenuous observer of the heavens. Hipparchus, it has been said, had previously observed the precession of the equinox, but it was Ptolemy who is thought first to have determined the rate of that precession, which he fixes at one degree in an hundred years. This discovery, which however was probably known long before his time to the astronomers of Chaldea and India, seems to have been one principal cause of all their errors in chronology, and the basis upon which the ancients founded their pretensions to such remote antiquity: for they argued, that if the precession was after the rate of one degree in one hundred years, in thirty-six thousand years it will have advanced through all the three hundred and

sixty degrees marked on the ancient zodiac, or, as Mr. Costard has stated it in figures, the rate will be 1° : 100ʸ : : 360° : 36,000ʸ. "This", he adds "was called the Αποκαταςασις, or RESTITUTION of the fixed stars; because in that time all the fixed stars return to their first position with respect to their COLURES." Others among the ancients, mistaking this RESTITUTION, which is a thing *purely astronomical,* supposed there would be a RESTITUTION *of all human affairs and transactions,* which would come about in the same order again. It is to this opinion that Virgil alludes in the following lines:

> Alter erat tum TIPHYS, et altera quæ vehat ARGO
> Delectos heroas,"*———

Which lines, with some others in this eclogue, since they plainly point to the commencement of a new system, I shall hereafter, perhaps, again introduce to the notice of the reader: for what other meaning can be affixed to the whole of this sublime composition, founded upon the Sybilline verses, than that which, presuming to make Virgil write somewhat like a Christian, and in a different tense, I have ventured to express in the following paraphrase?

> When their vast periods, yon revolving SUN
> And all the radiant host of heaven have run,
> Another DELUGE shall this globe surround;
> Another ARK along the billows bound.

From the time of Ptolemy to the period when his Syntaxis was first translated from Greek into Arabic, a long and gloomy interval of near 700 years elapsed, without any material improvement being made in that noble science either in the schools of Egypt or Greece. Soon after the commencement of the Hegira, science seems to have reverted to the channel in which it originally flowed; and at Bagdad, near the ancient Babylon, astronomy again reared its head, under the patronage of a race of Caliphs the most renowned and the

* Eclogue 4. ver. 35. See the notes of Servius upon this wonderful eclogue.

most powerful in the Mohammedan history. It was during the reign and by the order of that great and scientific prince ALMAMOON, that the Almagest was translated into Arabic, and this science began to be assiduously cultivated through all Arabia, Persia, and Tartary. It soon became the chief delight of princes, and the exalted study of the great and noble. The tables of ULUG BEG and NASSIR EDDIN, have been already noticed; and it was in those countries that astronomy flourished vigorously, while all Europe, for near 500 years, lay buried in darkness and profound ignorance. At length, in the ninth century, the Arabians carried their arms and their sciences into SPAIN; and, in the thirteenth century, the Almagest was first translated into Latin.

This may be called the grand epoch of the revival of astronomy in Europe: the fire was kindled, and it soon spread and blazed in almost every kingdom of the western world. Among the first Englishmen who engaged in astronomical pursuits, was ROGER BACON, who with great assiduity cultivated this science at Oxford. COPERNICUS, the supposed author of the system that bears his name, was a Prussian, and flourished towards the close of the fifteenth century. After the most accurate and unwearied observation of the heavens, and after an impartial perusal of all the ancient systems, he adopted that of Pythagoras, as the most agreeable to the order and harmony of the universe, as well as to his own elaborate researches; and he first fixed, with tolerable exactness, the periods of the revolutions of the heavenly bodies. TYCHO BRAHE, a noble Dane, who flourished a century after, discovered the truth of what Hipparchus had suspected near 2000 years before him, that the fixed stars, if they do not perish and are renovated, yet are subject to wonderful vicissitudes: for in his time a new and resplendent star appeared in Cassiopeia's chair, which, after shining for some months with amazing splendour, so as to be visible in the day time, faded away gradually, and finally became extinct to the eye in 1574.

In consequence, he imitated the conduct of Hipparchus, and formed a new catalogue, "which contained the places of 777 fixed stars, rectified to the beginning of the year 1600."* Greatly as astronomy was obliged to Tycho, and numerous as are the testimonies of his superior abilities, his attempt to overturn the system of Copernicus, and establish upon its ruins an hypothesis of his own, congenial with that of Ptolemy, will ever be remembered by astronomers as a remarkable proof of great weakness blended with great talents. This conduct, however, will excite less wonder, when we consider his strange devotion to the observation of omens, and his belief in judicial astrology; for superstition debilitates the strongest intellect, and subjects it to the influence of the most unaccountable delusions. KEPLER, his contemporary, a name ever to be mentioned with profound respect by astronomers, first made that immortal discovery relative to the heavenly bodies, the truth of which Newton afterwards demonstrated; *That the squares of the periodical times are as the cubes of their distances from the centre of their orbits, about which they regularly perform their motions.*

With profound veneration likewise, as long as the stars shall continue to shine, will be remembered the name of BAYER, a German, who formed those accurate charts of all the constellations, which are exhibited in his URANOMETRIA, and marked the stars in each constellation with the letters of the Greek alphabet, by which every star in the heavens may be referred to with the utmost precision.

GALILEO, a Florentine, the fortunate inventor of telescopes in the sixteenth century, by which the satellites revolving round their primary orbs, as well as all the wonderful arcana of the skies, were gradually discovered, now claims our respectful attention. This discovery, however, so wonderful, so noble, so highly worthy an enlightened age, is not solely to be attributed to the inventive genius of Galileo. It is evident from the writings of our Bacon, that

* Dr. Long, vol. II. p. 701; and Costard, p. 154.

the powers of optic glasses, both concave and convex, combined together in some form, though not exactly as they are used in Galileo's telescopes, were known to that prince of English philosophers. Without this assistance, we are astonished that the ancients could attain to so accurate a knowledge of the heavenly bodies and their phænomena, as their productions evince them to have possessed. The invention of telescopes was immediately carried by Galileo to a surprising height of improvement, for, by continually enlarging the focal lengths of the glasses, *first* properly arranged and fitted by him into an extended tube, he gradually increased the powers of the instrument, till, from magnifying only *three times,* he produced one that magnified objects *a thousand times.* Thus a new and astonishing scene was opened to the exploring eye of the astronomer; the limits of creation became enlarged beneath his delighted survey; the path of science was expanded in proportion; and genius soared into the vast regions of æther with a bolder wing.

The first satellite more minutely explored, as from its proximity is natural to conceive, was THE MOON. Astonished at the unequal and rugged appearance which its surface presented, he immediately concluded it must have mountains, valleys, and lakes, like our earth, and, from attentively considering its varying phases, as he enlarged his view and extended his observations, he was enabled to decide with still greater accuracy in relation to the phases and phænomena of the more distant satellites of the other planets. The telescope of Galileo, however, was found by succeeding astronomers to fall infinitely short in discovery of what might be expected from instruments of a perspective kind. Tubes of stupendous magnitude, and powers proportionably stupendous, were, in succeeding ages, invented by the zeal and assiduity of later astronomers; among which none were more distinguished than those made use of by the celebrated Huygens and Cassini. By these improvements in that noble instrument, but particularly those prepared by the indefatigable in-

dustry of Newton, Hadley, and Herschel, which are the boast of the present century, a blaze of glory is reflected upon this science, whose ray cannot fail of giving light to the remotest posterity.

Alike distinguished by fortune and by abilities, in the middle of the seventeenth century, flourished HEVELIUS, who, according to the inscription under his bust prefixed to his work, benefited astronomy equally by the exertion of his head, and the labour of his hand. "Quæ vidit, sculpsit; mente, manuque valens." He built a noble observatory at Dantzick, and furnished it with excellent instruments of his own construction. His observations on the phases and spots of the moon, as well as of other planets, and their satellites, were published in a beautiful volume entitled SELENOGRAPHIA, adorned with tables of observations on plates of copper, engraved likewise by himself. He was contemporary with our Halley, and was visited at Dantzick by him in 1670, on his return from his glorious expedition to St. Helena; whither, at the desire of the Royal Society of London, he had sailed upon an undertaking which Pliny, speaking of Hipparchus, denominated worthy of a deity; the classing in a catalogue the unformed stars of the southern hemisphere. The royal observatories of Greenwich and Paris, those grand theatres of astronomical investigation and experiment, were soon after erected. The stream of astronomical knowledge seemed again reverting to the channel in which it had formerly flowed; and, as anciently, during its most infant state, so now MAJESTY itself once more began to take delight in supporting and cherishing its professors. In those celebrated schools, under the patronage of their respective sovereigns, the great CASSINI, and our greater FLAMSTEED, pursued their scientific researches with indefatigable ardour, and well repaid the munificence of their royal patrons, by the splendour which their labours reflected upon their reigns.

As instruments now advanced rapidly towards perfection, and as the ardent curiosity natural to mankind increased, the FIXED STARS,

their nature, distance, and magnitude, became the immediate object of their more extended inquiry, and more elevated contemplation. That vicissitude in their number and splendour which Hipparchus had suspected, and which the accurate observations of Tycho had evinced, soon became more and more manifest; so that all that the ancient speculative philosophers of Assyria and Egypt had asserted with respect to the immutability of the heavens and heavenly bodies, the matter composing which they thought infinitely exceeded the durability, while they rivalled the sparkling brilliancy, of the diamond, like all their other baseless atheistical speculations relative to the eternity of the world, were overturned. On minute examination, it soon became evident that many of the stars enumerated in the ancient catalogues, and even some in the modern list of Bayer, were not to be found either by the unassisted sight or by telescopes; that the once conspicuous lustre of others had greatly decreased; and that others again were apparently and rapidly hastening to total extinction. Of the truth of the first assertion here made, there is exhibited demonstrative evidence in a very curious letter transmitted to the Royal Society by M. Montanari in the year 1670: he acquaints the Society that there are now wanting in the heavens two stars of the second magnitude *in the stern and yard of the ship Argo*, marked β and γ in Bayer's catalogue, observed by himself and others in 1664, but then totally invisible; and that, in the course of reiterated observations, he had noticed more than an hundred such vicissitudes among the fixed stars.*

* Throughout these volumes in general, and this astronomical detail in particular, I have constantly refrained, as much as possible, from swelling the notes with useless references and citations: the letter of this astronomer, however, being equally concise as curious, I add the whole of it, as it stands in the Philosophical Transactions, where the reader will find the greater part of what is inserted in the text, relative to the FIXED STARS, extracted from the papers of Cassini, Hevelius, and others, in vol. II. p. 237, et seq. to 252, of the Abridgement by Lowthorp and Jones.

"Desunt in cælo duæ Stellæ secundæ magnitudinis in puppi Navis ejusque Transtris, Bay-

In decisive proof of the second assertion may be adduced the remarkable instance of the PLEIADES, which formerly consisted of *seven* stars, distinctly visible, called by the fabulous Greeks, after the names of the seven daughters of Atlas; but of which at this day, and even so long ago as the time of Ovid, only *six* can be discerned by the naked eye. Quæ *septem* dici; *sex* tamen esse solent. —The last assertion is proved by a paper of M. Cassini, immediately following the letter of Montanari in the same authentic book, the particulars of which I shall insert: M. Cassini is there stated, in the course of his observations, to have discovered MANY NEW stars, viz. one of the fourth magnitude, and two of the fifth, in Cassiopeia; two others towards the beginniug of Eridanus, where, that writer adds, we may be sure they were not to be found about the end of the year 1664, at which time, on account of the appearance of the comet in that region, that part of the heavens was diligently explored; and, towards the arctic circle, four more of the fifth and sixth magnitude. M. Cassini is also reported to have observed, that a star particularly marked by Bayer in the figure of Ursa Minor, appears no more; that the star marked A, in Andromeda, has also disappeared; that in the room of the star marked υ upo the knee of the same figure, two others have appeared more northward; that the one marked ξ is *very much diminished*, that the star which Tycho places near the extremity of Andromeda's chain, and calls it of the fourth magnitude, is now become so small, that it can scarcely be seen: and that another, marked in his catalogue the twentieth of the constellation of Pisces, is now totally invisible. These amazing changes in what are denominated the *fixed stars*, form a very perplexing phænomenon in the modern system

ero β et γ, prope Canem Majorem, a me et aliis occasione præsertim Cometæ, anno 1664, observatæ et recognitæ. Earum disparationem cui anno debeam, non novi; hoc indubium quod a die 10 April. 1668, ne vestigium quidem illarum adesse amplius observo; cæteris circa eas, etiam quartæ et quintæ magnitudinis, immotis. Plura de aliarum Stellarum mutationibus, plusquam centenis, at non tanti ponderis, annotavi."

of astronomy, which first discovered them to this extent. They have been attempted to be accounted for variously, but unsatisfactorily; the most probable solution is found in the prevailing opinion entertained by astronomers concerning comets, which are supposed to be so many vast reservoirs of fire, allotted by the supreme creator to administer fuel to the suns round which they revolve in orbits so widely elliptical, and which, falling in upon the central orb, both become extinct themselves, and cause that body to blaze forth with distinguished splendour.

After establishing the doctrine of attraction and gravitation, and thus settling astronomy upon the most solid basis, the immortal NEWTON still laboured on in the same sublime track with indefatigable zeal, and by applying to its improvement all the stores of his deep mathematical knowledge, carried that science to a point of perfection which could only be excelled by the wonderful talents, the enlarged speculations, and the stupendous instruments of HERSCHEL.

Objects still rising above each other in novelty and grandeur, daily burst upon the vision, and overwhelmed the wondering faculties, of MAN. By arguments drawn from analogy, as well as mathematical research, he found the most solid reason to conclude, that the magnificent arch of heaven was studded, not with starry gems, *solely* intended, as he vainly imagined, to render *him* a faint light, and exhibit a beautiful and glowing picture during the absence of the sun, but with so many animated worlds, and systems of worlds, composed, like that from which he surveyed them, of a *sun in the centre, encircled by a train of revolving planets.* He soon found that what appeared to him a stupendous azure vault, thus splendidly decorated, was, in fact, an immense void; a profound abyss; the το παν of nature, which no rule could circumscribe: an abyss in which millions of such planets as that tenanted by himself, obeying the principles of gravitation and attraction, first im-

pressed upon them by the hand of the grand architect, performed, without infringing one upon the other, their vast and undeviating revolutions. In this wide abyss he began to have a faint conception that it was possible for systems on systems, *uncrowded,* to revolve; and for the respective comets attendant upon those systems to sweep along, disentangled, with their amazing volumes of fire. Habituated to the survey of finite objects alone, on every fresh attempt to compute their magnitude and their distance from his own sphere, his intellectual powers recoiled upon him, and having been accustomed to indulge himself in high and unwarrantable conceits of his own dignity and exalted station in the universe, he now sunk in his own esteem to proportionate abjectness, and to humiliation equally unwarrantable. Reflection, however, soon came to the support of his desponding mind. Reviving piety taught him a better and wiser lesson; for it impressed him with the awful truth, that he was at the post in the vast universe which was assigned him by almighty Providence; and that it should be his incessant aim to act at that post with wisdom and energy.

I am aware that some mistaken writers have asserted it to be a species of impiety thus minutely to investigate points of this abstracted and speculative nature, which appear to be placed beyond the grasp of man's finite comprehension. But to argue in this manner is to exhibit evident proof of a mind contracted and incurious: and is absolutely contrary to what may more justly be inferred from the natural and ardent curiosity implanted in the human mind by the supreme creator. This curiosity, this restless thirst after knowledge, may doubtless be indulged to any extent, without incurring criminality, in regard to all objects in the universe *not absolutely forbidden by the divine law,* as was the case in the unfortunate instance of our great primeval ancestor tasting the fruit of the tree of knowledge of good and evil. Indeed we may add farther, that in concerns where the Almighty himself has not placed

limits to the enterprizing industry and scrutiny of mortals, the indulgence of that curiosity is not only not criminal, but highly laudable. Had it not been for mental exertions, lofty, speculative, and expansive as these, how would the magnitude and figure of this globe of earth, the solar and lunar phænomena, with all their beneficial consequences to navigation and commerce, have been known and experienced in these latter and enlightened ages of the world? Let the clamours of ignorance and apathy, therefore, be hushed in oblivious silence; since it is evident that through all the ample circuit of creation, through all the known classes of being, wheresoever the active exploring faculties of the soul can penetrate, or from whatsoever objects it may be able to glean information, the range is lawful, and the investigation commendable. A knowledge of the true principles of ASTRONOMY, as demonstrated by the moderns, can make no man a *sceptic* in points of religion; it ought to have a very different effect upon the mind that truly reflects. While it gives birth to the most sublime conceptions of omnipotent power, it ought to animate us with renovated confidence in the great Father of all, and teach us resignation to that supreme being, WHOSE GOODNESS IS AS UNBOUNDED AS HIS POWER. We ought to be convinced, from the daily and abundant benefits which we receive from his guardian providence, that we are neither overlooked nor neglected amidst the immensity of his works; and that a degree of happiness proportionate to his station in the universe, and adapted to his utmost capacity of enjoyment, will be the never-failing reward of every man who dares inflexibly to persevere in the path of virtue, and aspire after the radiant meed promised to obedient piety in those sacred volumes that have REVEALED TO MAN HIS SOVEREIGN WILL.

CHAPTER VI.

In the Chapter immediately preceding, the Reader having been presented with the abridged History of ASTRONOMY, *according to the* GREEKS, *in the present Chapter is introduced to a wider Survey of that Science; and a more ancient Astronomical Mythology than that of Greece is gradually unveiled. Lest the Author should appear to have been guided in this Survey by the Spirit of* HYPOTHESIS, *rather than the Love of* TRUTH, *and to have selected, as Objects of Discussion, such Constellations as may appear more particularly favourable to that Hypothesis, he examines, at considerable Length, the ancient History of all the Constellations mentioned by* HESIOD, *and* HOMER; *and proves, that so far from being of Grecian Origin, they were known immemorially, but under other Appellations, by the Astronomers of* CHALDEA, INDIA, PHŒNICIA, *and* EGYPT—*The Constellations thus mentioned by* HESIOD, *and* HOMER, *as useful in Husbandry, are only seven in number, viz.* SIRIUS, ORION, ARCTURUS, PLEIADES, THE HYADES, BOOTES, *and* THE LESSER WAIN.—*These are considered separately, and in the Order in which they are here enumerated.*

THE reason and the necessity for my having entered so extensively into the preceding detail of all that is called genuine and certain in the science of astronomy, will immediately be apparent to the reader. He has now the whole system of Grecian astronomy correctly abridged, and arranged in chronological order before him, and he can advert to it, at pleasure, as we extend the eye of observation wider through Asia, and more particularly direct it to the

parent country of the world. We might safely adopt it for the *only true*, as it doubtless is the *best authenticated* history of the science, did we not recollect the ardent curiosity naturally inherent in the human mind, and had not the page of history informed us that long before the period of the visit of Thales, the prince of the Grecian astronomers, to Egypt, her pyramids, like the pagodas of India, were placed with such astronomical precision as to front the four cardinal points of the world; that long previously to the æra of the Argonautic expedition, distant naval expeditions were undertaken, and an extensive maritime commerce vigorously flourished among the Phœnicians: that the Chaldeans were immemorially astronomers, and that the temple of Belus at Babylon was a stupendous observatory. Now it will scarcely be denied, that those nations of the ancient world who first cultivated habits of commercial intercourse with their fellow mortals in distant quarters of the glone, and who frequently traversed the vast ocean, must necessarily and diligently have observed the stars; nor that those, whose country abounded with sandy deserts of almost boundless extent, and where no objects, but earth and sky, met the view of the benighted wanderer, could scarcely avoid fixing their eyes upon some celestial body of greater magnitude and brilliancy, or of more singular form, than the rest, as a guide to direct their devious feet. Bearing this reflection in constant remembrance, let us now proceed to examine what previous observations had been made by Oriental astronomers in respect to those five constellations, which we have recently observed were alone mentioned by Hesiod; Sirius, Orion, Arcturus, the Pleiades, and the Hyades: and those two others, alone taken notice of, in addition, by Homer; Bootes and the Lesser Wain. These seven constitute almost the whole of the constellations enumerated in the oldest systems of astronomy, and I shall examine the history of them in successive order.

Sirius was an object too important to the very existence of the

Egyptians, not to have been in the most remote periods of time accurately and vigilantly observed by them. The name is derived from Siris, the most ancient appellation of the Nile, for when this star *rose heliacally*, that is, at the moment Sirius disengaged itself from the rays of the sun, and became visible to the Egyptians, their year commenced, and the inundation of that river, which was to them the source of national triumph and national abundance, began likewise to take place. He was the faithful watchdog of the land of Egypt; the Latrator Anubis, the celestial BARKER, whose *warning* and friendly voice told them that the event which convulsed Egypt with joy was at hand. They conferred, therefore, upon this star the name of their river; and, as was the usual custom in the ancient world, paid it divine honours. The Greeks, says Diodorus Siculus, by placing an O before the word converted it into Osiris, and made it unintelligible to the Egyptians; as unintelligible, I may add, as they did the term GOGRA, a river of India, to the Hindoos, when they softened it down to AGORAMIS. We should, perhaps, never have been able to penetrate to the root of the word Siris, had not a modern traveller, by an expedition as unprecedented for the toil and hazard accompanying it, as for the firmness and spirit with which they were endured, obtained an intimate acquaintance with the language and history of the Ethiopians, the undoubted parents of the Egyptians. That author *informs us, that* Sirius is originally derived from SEIR, an Ethiopic word signifying the dog-star, which gave its name to Sirè, a considerable city of that country; aud that the still greater city of Axum is full of hieroglyphics relating to this particular constellation.* That the Thebans were very early astronomers, or at least *observers*, there is this demonstrative evidence, upon which Mr. Bruce has very properly laid great stress, that Ptolemy has by their means been able to record an heliacal rising of Sirius on the fourth day

* See Bruce's Travels, Vol. I. p. 412.

after the summer solstice, answering to the year 2250 before Christ:* and from all these united circumstances it results, that Sirius may safely be referred to the Egyptian astronomy, having been *first* designated on the sphere of a people to whom his particular situation in the heavens was of such infinite importance.

By attending, in the same manner, to the second in order of the seven constellations particularized above, we shall probably arrive at the true history, and first designation on the sphere, of Orion. But before I quit this subject, a circumstance very important to the proper comprehension of this history, and in a high degree interesting to the historian, who has ventured to assert on his very outset, that the history of the greater part of the illustrious personages of antiquity, I do not mean of Grecian antiquity, but those of higher, and more early renown, is to be found inscribed in conspicuous characters on the celestial sphere, ought to be particularly noticed: for with renovated confidence I repeat that assertion, and am now about to enter upon the proofs of it, as far as at this remote period, and from the scanty fragments of very ancient history that have descended down to us, it may be possible to prove it. In doing this, however, I must again request the exertion of the candour and patience of my readers, during an investigation that will necessarily take up a considerable portion of the early pages of these volumes.

For having hitherto represented Osiris as the sun, I have the authority of all Pagan antiquity: and for having, *occasionally*, made that name synonymous with Noah, I have in my favour the decided voice of the most celebrated Christian writers, who have treated on the abstruse subject of mythology. If it should appear that Bruce be right in conjecturing the Osiris of the Egyptians to be Sirius, my general hypothesis is by no means materially affected. In either instance their principal intention was, emphatically to

* Ibid

describe, in hieroglyphical language, the great source whence as a nation, they derived inestimable benefits. This character was equally applicable to THE SUN, the fountain of light and heat, whose direct ray quickly matured the seed placed in the bosom of the earth after the inundation had ceased; to Noah their first legislator, under the name of Menes, the parent of Egyptian sciences, but especially of agriculture; and to Sirius, who was the bright harbinger of the inundation. To these three objects we shall readily allow the appellation occasionally, and with the promiscuous confusion usual in all mythology, to have been applied. But the argument remains unshaken. Beneficence was the foundation of the character which their gratitude exalted to the rank of deity. It was still A GOD, A KING, and A CONSTELLATION.

Guided by the same high authorities, and influenced by the same mythological train of reasoning, I have throughout these pages represented ISIS as the MOON, whose friendly beam illuminates the darkened hemisphere, or as the genial earth itself, that produces all things necessary to human life. Having, however, now allowed that by Osiris may be meant Sirius, I shall corroborate the hypothesis of Mr. Bruce, by subjoining, that the Egyptians, when they deified for his virtues their first monarch, did not place far from him his affectionate consort; for they gave the name of ISIS to the star in the head of Sirius,* and thus unfold to us the meaning of the ancient inscription concerning her, mentioned by Diodorus Siculus,† Εγω ειμι ἡ εν τῳ αϛρῳ τῳ Κυνι επιτέλλȣσα, I am she that rises in the DOG-STAR. Such was the bright abode reserved by the grateful Egyptians for the first king and first queen of that ancient empire. But these were not the only Egyptian personages elevated to that conspicuous constellation, and in conceding to the force of the observations of Mr. Bruce, I may have appeared, in another respect, to have contradicted a former assertion, that the Egyptian

* Eratosthenes ad finem Arati, p. 12.

† Diod. Sic. lib. 1. p. 31.

god, Anubis, was properly the dog-star. Every person versed in mythology, must be sensible how difficult it is to travel through its endless mazes without being guilty of frequent apparent contradictions; since the ancients have variously represented their own mythological systems; and it is therefore to be hoped that candid allowances will be made in proportion to the difficulties of the research. In this respect, however, I trust it will be no arduous task to extricate myself from that supposed impropriety. Anubis, the elder Taut, was counsellor to Osiris, and it was but proper that he should attend his Sovereign to the allotted constellation, his counsellor alike in either world. Admitting, therefore, upon the strong evidence adduced by Mr. Bruce, the identity of Osiris and Sirius, I must contend for applying the former name, Osiris, to the whole constellation, and the name of Anubis to that resplendent star which astronomers observe to be *in the mouth of the Dog*, and which may more properly be called the Dog-star. In fact, on the old Egyptian sphere, the Canis Major is designated exactly like the figure of Anubis, which they publicly exhibited on the approach of the inundation, that of a human figure with a dog's head placed upon its shoulders.

The founder of Babylon, and the first despotic sovereign of Chaldea, was the ambitious, the enterprising Nimrod. The mind of the whole Pagan world of antiquity was deeply impressed with traditions of his gigantic stature and enormous power. Homer calls him Ωριωνα Πελωριον,* which Mr. Bryant observes, betokens something vast, and is applicable to any towering personage.† He adds, that there was a famous tower, near Zancle, called Pelorus, sacred to Orion; and that they erected towers to him in consequence of the majestic magnitude of his person, and called them Pelorus. It was natural for those abject subjects who so basely flattered him when *living*, to make a god of him when *dead*, and number him

* Odyssey, lib. 1. 571.

† Analysis, vol. I. 413.

among the earliest constellations. He was exalted to the stars under the name of Orion. According to Dr. Hyde, the modern Chaldaic appellative of this constellation is NIPHLA, and the Arabian is AL GIEBBAR, quæ *gigantem* ac *fortem* significant:* and surely there cannot possibly be a more accurate description of a tyrannical and cruel monarch than these words convey. But Nimrod, we are informed, was *a mighty hunter before the Lord*, a hunter of *men* as well as of *beasts*, for so the best commentators explain the word: and could a twofold character like this be more decisively marked, than by being drawn in the manner we see Orion drawn on the celestial sphere; as a gigantic figure, armed with a massy club, very near to the *greater* and *lesser Dog*, and the *Hare?* Proportionate to his former dignity and splendour are the ample space and conspicuous station allotted to Orion in the heavens. This constellation is crowded with stars visible to the naked eye, and of superior magnitude and beauty; while those which powerful telescopes have discovered in it, have defied the ability of astronomers to enumerate. It is so evident *who* is the real object alluded to in this astronomical hieroglyphic, that I shall not insult the reader's understanding by dwelling too long on the Greek fables respecting Orion; yet it is still proper to take some transient notice of their romantic details. That vain people accommodated their allegorical history of the early ages of their nation to the asterisms already formed by the fathers of mankind, and endeavoured to make a foreign sphere their own. The world has been imposed upon from age to age by the elegance of their allegories, and the beauty of the language in which they were written, to credit the artful tale; with what truth, will be demonstrated as we proceed in this extensive, and interesting discussion.

The story of Orion's birth as recorded by Hyginus, is too indecent to be related here; as he was an extraordinary man, they conceived

* See Dr. Hyde's edition of Ulug Beg, p. 45. Edit. quarto, Oxon.

that he ought to have as extraordinary a birth. It is sufficient to say that he was born in Thrace, the offspring of the will of Jupiter, Neptune, and Mercury, who had been hospitably entertained by his pretended father, who requested a child of his immortal guests.* On this ridiculous story, there is a very judicious remark of the Abbé Banier, that though Homer repeatedly mentions Orion, yet fond as he was of enriching his poem with the Greek mythology, he never once mentions the wonderful circumstance of his birth: a plain proof, adds the Abbé, that *the story was not yet invented.*† According to the Greeks, he was not only a great hunter, which makes Homer sing that he hunted wild beasts in hell; but a great astronomer. His skill in hunting rendered him the object of the jealousy of Diana; and on that account according to some mythologists, he was shot through with arrows by that goddess; but according to others because he attempted with unhallowed hand to remove the veil of that chaste divinity. Others again, for as few stories in their whole mythology are more celebrated than this of Orion, so none are more variously related, give a very different account of the mode of his death, asserting, that at the command of Diana a scorpion issued out of the earth, and stung him to death; but the goddess being penetrated with anguish, both Orion and the reptile that occasioned his death were afterwards translated by her into heaven; the one forming a conspicuous constellation in the northern hemisphere, the other a sign of the zodiac.

It must be evident to every person of reflection, who considers the preceding account of Orion, that it contains the shattered fragments of the true history of this celebrated post-diluvian personage, mixed with Grecian astronomical mythology. Since Nimrod, and Belus who built the observatory at Babylon, are generally considered as the same person, we are not to wonder at finding the Orion of the Pagan world the copy of the former, blending the science of

* See Hyginus, Fab. 81.

† Banier's Mythology, vol. IV. p. 386.

astronomy with the sports of the field: otherwise there would be just ground for astonishment at the unaccountable union of two such opposite characters. We may even trace the resemblance considerably farther, and in this too close and curious attention to Diana the huntress, discover the anxious astronomer of Chaldea, fixed in intense contemplation upon her orb, and watching her phænomena, accurately to mark the lunar revolution, and form that first effort of astronomy, the *lunar mansions*. Her reluctance and revenge may shadow out the ill success of the first attempt, as his death by the sting of a scorpion, doubtless, does his decease when the sun was in that noxious sign. A due consideration of the early portions of the Greek mythology, a mythology concerning the true meaning of which their own writers disagreed, may be of material use towards clearing up many obscure points of ancient history and chronology.

The importance of this constellation in the opinion of the ancients, is evident from their frequent and animated descriptions of it. There is one particularly in Aratus,* which depicts Orion; and Manilius describes this personage as the mighty leader of the starry host.† Orion indeed was a constellation equally beautiful and terrible; and seems from his sidereal throne, in all ages, to have exerted over the *minds* of men as great a despotism as he did when a terrestrial sovereign over their *persons*. The mariner and the husbandman alike shuddered at his supposed influence upon the elements. Concerning the imminent danger when Orion was setting, Horace emphatically observes;

> Sed vides quanto trepidet tumultu
> PRONUS Orion!

and the Mantuan bard is not less particular in his account of the danger when this constellation was rising,

* Aratus, 787. † Manilius, lib. 77.
‡ Horace, Carm. lib. 3. 27. 18.

Cum subito ASSURGENS fluctu nimbosus Orion,
In vada cæca tulit.*

It probably arose from the magnitude and splendour of this constellation that it is so particularly mentioned in the book of Job; and if Mr. Costard's remarks on the constellations recorded in that ancient, sacred, and sublime drama be admitted to be founded in truth, it should appear as if Orion, in some particular situations and aspects in the heavens, was considered by the eastern husbandman as shedding benign and friendly influences.

In respect to that disputed topic, the antiquity of the book of Job itself, whether it were the production of the great Hebrew legislator, or were composed about the period of the Jewish captivity, for which opinions a variety of arguments have been brought by different learned men, as they have adopted the one or the other of those hypotheses, it would lead us too far into the wide field of theological contest to enter deeply into the discussion of it. For my own part, since the Jewish Rabbins ought to know best the date of their sacred writings, and since they universally assign the composition of it to their great legislator, I am inclined to agree, even in opposition to Costard, with those Christian commentators who retain sentiments consonant to those of the Rabbins, and determine it to have been composed by the pen of Moses himself; possibly to animate, by such a noble example of patience and resignation as is therein exhibited, the desponding Israelite during his protracted journey through the dreary desert of Sinai. From the train of arguments used by Mr. Costard in fixing the date of the book of Job, it is easy enough to perceive that he was staggered by the mention made in that book of certain constellations already formed at that remote æra; whereas he had asserted, that the year 763 before Christ, "is the earliest date of any thing that looks like constellations in any writer of the east."† On that account Mr.

* Æneid, lib. 1.539.

† Costard on the Constellations of the book of Job, p. 36.

Costard is not willing to allow the book of Job to be of a more ancient date than the time in which Isaiah and Amos, who both mention constellations, prophesied; that is, about the period just named, when the Jews, he contends, had learned from the Babylonians, and the Phœnicians their neighbours, the rudiments of astronomy, a science now beginning to flourish among those nations. This representation is not entirely consistent with our author's preceding assertions relative to a more ancient sphere, nor does it by any means appear to have been the genuine fact. The subject is important, and merits a more extended discussion than the limits within which I have professedly restrained myself will allow me to give it. Let us, however, concisely state that fact.

We have seen in the preceding epitome of Grecian astronomy that these old Grecian constellations are mentioned by Hesiod and Homer, as necessary to be observed in the regulations of agriculture; and they are mentioned in such a manner as proves their rising and setting, and other phænomena, to have been immemorially observed for the same purpose by the husbandmen of Asia. Now, according to the best chronologers, these venerable poets flourished about the year before Christ 900, and in periods not very distant from each other. Of Musæus and Atlas, who are said to have formed the first rude Grecian sphere, probably from Egyptian outlines, the age can scarcely with certainty be ascertained: but since Chiron formed a particular sphere for the more immediate use of the Argonauts; and since we know from history, that the memorable Argonautic expedition took place about the year 1250 before Christ; why should it be thought unreasonable that constellations might have been previously formed, even in the days of Moses, who was learned in all the wisdom of the Egyptians, and who, according to the chronology of Usher, and our Bibles, flourished only 300 years preceding that expedition, or about 1500 years before Christ; I am not, however, a very sanguine advocate for

the system of deriving the knowledge of the more ancient Hebrews, from Egypt, as it appears to me far more probable that very considerable remains of the ancient patriarchal sciences, and especially of that astronomy for which the sons of Seth were anciently so celebrated, might be preserved among their early posterity. Abraham's father, Terah, who was a maker of idols, and fashioned them under the particular influences of the planets, could be no stranger to astronomy, or, at least, to a science very intimately connected with it, and which in those days formed a part of it, astrology.

When God bade Abraham lift up his eyes *to the stars,* and count their number, it was probably done in allusion to the science in which that patriarch so eminently excelled ; and the vision of Jacob when he saw the ladder whose top reached up to heaven, and on which the angels of God, that is the glorified spirits, ascended and descended, has a very near relation to the sidereal ladder and seven gates erected in the ancient astronomical cavern temple of Mithra, on which the transmigrating soul ascended or descended. I wish to avoid running into those extremes of assertion into which Gale, and other writers have been betrayed, that all the knowledge of the Pagan world was derived from the Hebrew patriarchs ; which surely allows too little scope for the exertion of industry, and the powers of inventive genius in other nations. Still, however, as in the Hebrew language may be found the radices of almost all other languages, I cannot avoid being of opinion, that mankind are greatly indebted to that primitive race for the rudiments of *most* of those sciences, that are principally the delight and decoration of the human mind.

In the points above mentioned, although I cannot wholly subscribe to the opinion of Mr. Costard, yet to his particular interpretation of the passage in Job, which mentions Orion and the Pleiades, I can with great readiness, and believe his profounder knowledge of astronomy enabled him to give a more true translation of it than

the Seventy, who flourishing when the Greeks began to cultivate that science, naturally borrowed from them the names of two constellations most celebrated among them, and inserted them without much regard to precision. The passage alluded to, in the vulgar translation, stands as follows. *Can'st thou,* says the Deity, *bind the sweet influence of the* PLEIADES, *or loose the bands of* ORION? Of these words, astronomy and good sense dictate the following interpretation. Can'st thou, Oh Job! order the warm southern stars to shed from on high their genial influence, and open the vernal flowers and fruits; or, by thy command, will the cold northern stars dispense their malign influence, and with the chilling rigours of winter bind up in icy chains the vegetable world? The word occurring in the original, which the Seventy have translated Pleiades, is CHIMAH, and that which they have rendered Orion is in Hebrew CHESIL. The term Orion, therefore, is not directly mentioned by the author of the book of Job, whosoever he was; but Mr. Costard is decidedly of opinion,* that by one of the preceding appellations Orion is meant, and he thinks that constellation was intended to be designated by CHIMAH, a Chaldaic word, signifying *a warrior armed with a coat of mail*, a word exactly corresponding with *Gigas*, and probably the original denomination of that asterism on the Chaldaic sphere. By Chesil, likewise, he would understand, not the Pleiades, but the constellation now denominated the Great Bear, which however he contends, on the old sphere was designated by the figure of *a waggon*, and first known to the Greeks by the name of Αμαξα. By this name indeed, Lucan, in his Pharsalia, expressly alludes to it:

Hyperboreæ PLAUSTRUM glaciale sub URSÆ.†

and nothing can be more ingenious and judicious, than Mr. Costard's mode of accounting for their conferring this name upon the con-

* See Mr. Costard's third Letter to Martin Folkes, Esq. p. 57.

† Lucan's Pharsalia, line 5.

stellation. As, however, I have a very curious piece of Sanscreet information to impart to the astronomical reader, relative both to the Great Bear, and the Pleiades, I shall not here anticipate the subject, but proceed on, in the course of these strictures, to the consideration of the third in order of the seven old Greek constellations, the history of which I am detailing.

Arcturus is the Greek name of a star of the first magnitude in the northern hemisphere, being one of those that are most remarkable for its splendour, and at the same time for its proximity to the arctic circle. Being not subject greatly to vary its position in the heavens, it was considered as a sure guide to the mariner when he ploughed the dangerous ocean, as well as to the husbandman, to distinguish by its heliacal rising, the season for committing to the earth the various kinds of grain. On this account, indeed, Arcturus was thought by the ancient astronomers important enough to be formed into a distinct constellation, and although it has not been allowed that honourable exaltation in modern systems of astronomy, its lustre and its situation render it an object of very particular attention. This star has been sometimes confounded with the Great Bear; but it is situated at some distance behind that constellation; and hence I suspect, in the Grecian astronomical mythology, arose the fable that Arcturus was the son of Calisto, by which name they also distinguished the Ursa Major. The term Arcturus plainly points out its origin; it was doubtless formed of the Greek αρκτος. It may be more properly said to be a star in the constellation Bootes, which however immediately presses upon the Bear, and so near, that Bootes himself, in the old astronomy, was designated by the name of the Celestial Waggoner, or Driver of the Wains. The whole story of Calisto as related by the Greeks, is in their wildest and most romantic style of allegory, and affords evident testimony that the constellation was not originally of their invention; for since Jupiter, Juno, and Diana, are principal personages

concerned in this mythological drama; and since by Jupiter the ancients understood *the expanse of heaven*, by Juno *the circum-ambient air*, and by Diana *the moon;* we may safely, as in the preceding case of Orion, refer the whole to elemental phænomena, and planetary oppositions or conjunctions, observed in the infancy of astronomy, when the eye of science was more intensely fixed on this portion of the heaven.

Calisto, according to Aratus and Ovid,* was the daughter of Lycaon, king of Arcadia; and her son Arcturus the offspring of an amour of Jupiter with that nymph. Juno, in jealous rage and revenge, turned the nymph into a bear; in this savage form she brought fourth her son Arcas, or Arcturus. In the end Diana the huntress, with whom she had formerly been an associate in the sports of the field, translated both mother and son into the heavens. On the whole, I think if my physical interpretation of the fable be not wholly admitted, it may fairly be presumed that this son of Calisto, whosoever she was, might have been an ancient astronomer, who from his incessant attention to the Ursa Major, was, in the usual style of Oriental flattery, denominated the son of that constellation; and when deceased, his soul was thought to have taken up his abode in Arcturus, the nearest star of distinguished splendour, whence he might continue his rapturous gaze upon his imagined progenitor. It was probably with a view to this relative situation, that the ancient Greeks sometimes called Arcturus by the name of ARCTOPHYLAX, the vigilant observer and GUARDIAN of the BEAR. The influences shed by Arcturus are generally stated to have been ungenial to mariners, especially when setting.

> Neque tumultuosum solicitat mare,
> Nec sævus Arcturi *cadentis*
> Impetus, aut orientis Hœdi. *Hor. 3. Carm. 1. 27.*

Arcturus being likewise one of the few constellations mentioned

* Vide Ovidii 3. Fast. 106: et Aratus apud Cicero de Natura Deor. 2. 105.

in the book of Job, affords new matter for reflection, especially since Mr. Costard has given it as his decided opinion, that the original word in the Hebrew Bible, which is Aish, and which the Seventy have rendered by Arcturus, should have been translated the Pleiades. He justly supposes the Seventy, however pious and otherwise learned, were not very deep proficients in astronomy, but rendered the Hebrew names of the celestial asterisms by the names of those constellations of most notoriety at the time that version was made, and that, without professing critical correctness in the science, they were content to nominate those which from their magnitude, splendour, and utility, exhibited the most lively emblems of the exalted majesty, bright perfections, and guardian providence of God.

The passage, as it stands translated in our Bibles, is as follows; *Canst thou bring forth* Mazzaroth *in his season; or canst thou guide* Arcturus *with his sons?** By Mazzaroth are commonly understood the signs of the zodiac, succeeding each other in the order of the various seasons; Mr. Costard, however, would refer it to the asterisms of the lunar zodiac, injudiciously I think, as it lessens the grand image presented to the mind by the former interpretation. That by Aish and his sons, should be meant the Pleiades, that is, a cluster of stars, rather than a single star, is not improbable; because, in the first place, as we shall presently see, the ancient year opened with the heliacal rising of that constellation, which might therefore be properly enough said to be the bright leader of the starry train, the parent of the radiant progeny of heaven.

In the second place, it is far more consonant to the practice of the sacred writers to notice an assemblage of stars, forming a conspicuous constellation, than a single solitary star, however brilliant;

* Job, xxxviii. 32.

as for instance in Orion, the Wain, and the crooked Serpent, which are all celestial asterisms of great extent and magnitude in the heavens and consist of a multitude of stars. The reason is curious, and deserves attentive consideration. In forming the stars into distinct classes, and in partitioning out the heavens into constellations, the ancients, who were as yet strangers to any more regular division of the year, intended more accurately to mark out the various seasons for the different branches of husbandry, since the constellations, invariably returning at certain periods, and in regular succession, throughout the progress of the solar revolution, were the only registers by which they could regulate their conduct. By any single star, even of the first magnitude, since there were many in the heavens of *equal* magnitude, it was possible for them to be misled; but by a collection of stars consisting of ten, twenty, or thirty in number, classed in a group and assuming, as it appeared to them, a particular form distinct from all others, as that of a bull, of a bear, of a lion, of a giant armed with a club, &c. &c. they knew it was impossible for them to be deceived. Occupying a vast portion of the sky, and glowing with uncommon lustre, these large and distinguished constellations attracted the admiration of the observant swain; rivetted his attention; and, in too many instances, even excited his adoration, and kindled his devotion.

In the third place, the primary meaning of the Hebrew word Aish, directly leads to the true sense of this passage. Aben Ezra, one of the most ancient and learned commentators among the Jewish Rabbins, supposed it to mean the Septemtriones, or in other words the Wain, composed of seven stars;* a proof that the old Jews supposed Arcturus to be an assemblage of stars rather than a single one. Dr. Hyde contends for its being the bright star in Auriga, called in Syriac Iyutho, by the Arabs Al

* See Aben Ezra upon Job, chap. xxxviii. v. 31, 32, cited in the original by Costard, p. 67.

Aiyuk, and by the Greeks Αιξ;* terms which, however misapplied in regard to their object, it is highly probable are all derived from the Hebrew Aish. The testimony of the Chaldee Paraphrast may also be brought in support of the plural allusion of the word Aish, for he understands by this star, the Babylonian Succoth Benoth, or *celestial hen and chickens*, by which the Pleiades were originally designated. But to return to the investigation of the true meaning of Aish.

Ashash, Mr. Costard observes, in the Arabic language signifies *nidulavit*, *nidificavit*, to make a nest, an idea still remarkably consonant to the Pleiades, which may be considered *as a nest with its young ones*. Our author, however, is of opinion, that we need not have recourse to the Arabic language for its true meaning, since it may fairly be derived from ash, an Hebrew verb signifying *to gather together*, and Aish, thus formed, may with peculiar emphasis be applied to an assemblage or cluster of stars like the Pleiades, the more particular history of which celebrated asterism we now proceed to investigate.

Although in modern astronomy, the pleiades be not properly considered as a constellation, but as a cluster of stars in the neck or head of Taurus; yet very abundant and positive evidence, if necessary, might be adduced to prove that they anciently were regarded as a distinct constellation. An inquiry into the history of *this radiant cluster*, consisting anciently of *seven* stars, but of which only *six* are now to be discerned by the eye unassisted by telescopes, will open to us a very wide field of astronomical disquisition. Indeed when we consider the reiterated mention made of them by authors of the earliest date in antiquity, and the powerful influences attributed to them; when we consider that the Grecian husbandman is advised by Hesiod, to regulate the time of sowing and of harvest

* See Hyde in his notes on the Fixed Stars of Ulug Beg, p, 46.

by the rising and setting of the Pleiades;* that Homer† informs us, that navigation was directed by observations, made on the constellations Pleiades, Arcturus, and Orion; and that the ancient Chaldaic, Assyrian, and Grecian year opened with the heliacal rising of the Pleiades, and with them completed its period; we cannot avoid being impressed with an idea of the great consequence of this remarkable asterism in the ancient world.

There are the strongest reasons for supposing this *constellation*, for thus, in conformity to the Greek writers, I must be permitted to call it, was of Chaldaic original. The name of Pleiades indeed is perfectly Greek; the word being generally supposed to be derived from πλεω, *navigo*, because the most favourable season for setting sail was esteemed to be at the heliacal rising of these stars. Hence, according to Theocritus,‡ the Argonauts at this period commenced their celebrated expedition, a circumstance which, as I shall prove hereafter, leads to some important consequences relative to that famous voyage, which have escaped even the critical acumen of Mr. Bryant. There is another derivation of the word Pleiades, which shall be noticed in its proper place.

We have already taken notice of the celestial mansions, to which four of the more conspicuous characters in the annals of very ancient history and mythology, annals extending far beyond all Greek hitorical records, were exalted, viz. Osiris and Mercury, to the *dog-star*, considered as a constellation, and Isis to a splendid star, in the head of that constellation. Nimrod we have discovered in Orion, the giant and the hunter, and we are now to exhibit the renowned Semiramis, the Babylonian Venus, and the true Dea Syria, in the constellation anciently denominated by that race Succoth Benoth; the soft and genial abode of love to which there is immediate allusion in the generative warmth of the hen, brooding

* Hesiod, lib. 2. v. 1. † Ilias, 6. 132. ‡ Theocriti Idyll. 13, v. 25.

over her young progeny. Hence on many Asiatic and Roman coins, the wanton queen who took Ninus to her bed, and indulged an incestuous passion for one of her sons, is drawn under the figure and character of Venus Genetrix, with the billing dove for her expressive symbol; and on the Egyptian sphere of the Barberini family, this portion of it which the bull Apis occupies, is denominated Statio Veneris, the mansion of Venus. Hence too it is not impossible, that her very name of Semiramis, compounded of SAMAR, brown, and HAMAMAH, a pigeon, a bird of a nature remarkably warm and salacious, might be derived. Oriental mythology, originating in, and retrospective towards periods far anterior to the date of the fabulous Greek mythology, is alone able to penetrate to the bottom of the ancient mysterious history of these Asiatic personages exalted to the stars; and by that mythology we shall, perhaps, hereafter be able to rend the veil that has so long obscured the true Hercules, who was first deified and worshipped in Phœnicia, and, as I conceive, was no other than Belus the successor, possibly the contemporary, of Nimrod.

In the ancient sphere there was a constellation called PHALÆNA, or the MOTH, not known in modern astronomy; though in the books of astrologers, that is, the descendants of the old Chaldean soothsayers, the memory of it is still preserved. By the MOTH, a species of butterfly, which, leaving its dark hiding place, principally *wanders about by night*, Mr. Costard is of opinion the ancients meant the Pleiades, so useful to the benighted wanderer: and what remarkably corroborates his opinion is, that the word USH in Hebrew, which in sound very nearly resembles AISH, their name for the Pleiades, signifies A MOTH. It is highly probable, therefore, that one of these terms was the genuine Chaldaic appellative of this cluster of stars, preserved by the Hebrews, but misunderstood or forgotten by the Greek astronomers, who afterwards designated them by the name of Pleiades. This term, if it be not in

reality derived, as before observed, from πλεω *navigo*, is doubtless formed from πλειονα, *plures*, the comparative plural of πολυς, *multus*. Hence the word πλειων came to signify in Greece a complete year, the year being formed by the apparent revolution of the Pleiades; that is to say, by the sun's return in his annual course to that sign of the zodiac or Taurus, in whose neck the Pleiades are situated. This circumstance exhibits another remarkable proof how greatly their attention, in conformity to the precepts of Hesiod, was fixed upon this constellation; and serves still farther to explain that passage previously quoted from Virgil.*

——Aperit cum cornibus annum
Taurus.——

The heliacal rising of the Pleiades, or, in other words, "when THE BULL† with his horns opened the vernal year," was not only esteemed an auspicious period for sailing, but was the genial season for love and festive sport throughout the whole earth. All nations seemed anciently to have vied with each other in celebrating the blissful epoch, when laughing nature renewed her charms; and the moment the sun entered the sign Taurus, were displayed the signals of triumph, and the incentives to passion. Memorials of the universal festivity indulged at that season, are to be found in the records and customs of people otherwise the most opposite in manners and the most remote in situation; and I cannot avoid considering the circumstance as a strong additional proof that mankind originally descended from one great family, and proceeded to the several regions in which they finally settled from one common and central spot. The Apis, or sacred bull of Egypt, was perhaps only the symbol of the sun in the vigour of vernal youth; the bull of Japan breaking with his horn the mundane egg, before described, and the Persian fable related by M. Anquetil du Perron,

* Georg. lib. 1. 217.

† The sign Taurus.

in the Zend Avesta,* concerning the first animal being having been formed of a figure *half man, half bull,* seem evidently allusive to the same *bovine* species of superstition, founded on the mixture of astronomy and mythology.

The Indians, if we may judge from their universal worship of the terrestrial bull, seem to have observed with still more minute accuracy the Taurus of the zodiac, and the heliacal rising of this celebrated group of stars. They have even founded a mythological fable upon them, which I shall presently unfold, and which affords to the European observer matter of deep consideration, because it appears to establish an important but disputed fact in astronomy. Indeed it may fairly be presumed, that, as the Indian sphere shall gradually be displayed to us by learned Europeans resident upon the spot, new subjects of interesting inquiry will start up, and a fresh field of observation be laid open. There is very positive proof to be met with in the second volume of the Asiatic Researches, that such a sphere was in existence in India, and that constellations were formed there in very early periods; and we may depend upon one fact, that the Indian Brahmins are too haughty a race of philosophers ever to have borrowed their astronomy from the Greeks, or even the Egyptians. If the Egyptian hieroglyphics are for the most part allusive to the power of the sun, in the several signs of the zodiac, so have the sacred symbols in the Indian pagodas as direct reference to the forty-eight old constellations. From the great temple of Jaggernaut, we have seen that a vast BULL juts out with an *eastern aspect;* rams, goats, lions, serpents, and marine animals, designated like those of the sphere, are engraved on all the walls of those pagodas. Their Agastya, or bright star in Argo, is the Egyptian Canopus; their Sacata the Phœnician bear; their Ananta is the great Chinese dragon; their Ganga the Greek Eridanus. And here I cannot avoid taking notice of the enormous

* Zend Avesta, vol. III. p. 348. Edit. Paris, 1771.

error into which M. Bailli has been hurried, under the influence of Voltaire, in his futile attempt to subvert the hypothesis which makes Chaldea the parent country of mankind, and the nurse of infant science.

That gentleman, in his famous, but romantic treatise *on the Origin of the Sciences in Asia,* has endeavoured to prove that a nation of profound wisdom, of elevated genius, and of antiquity far superior even to the Egyptians, Indians, and Chinese, once inhabited the vast deserts of Siberia, and from the cold and now barren region of SELINGINSKOI, in the fiftieth degree of north latitude, propagated throughout the world the first rudiments of the sciences, particularly astronomy. He labours to demonstrate that some celebrated discoveries in astronomy could only have taken place in the high northern latitudes of Asia: that most of the ancient mythologic fables of Asia, considered in a physical sense, have relation to the northern parts of our globe; and that arts and improvement progressively travelled from the polar regions to those of the equator. This learned primitive, but long extinct, race of Scythian philosophers, for whose existence neither history nor tradition, but certain fanciful conjectures of the author are alone brought in evidence, M. Bailli supposes to have been the masters of the people whose antiquities I have undertaken to explore; but whose pride and self-importance would never permit them to submit to be taught by the sages of any nation; much less by a race of men, whom they ever considered as barbarians, and inhabiting what they thought the extremities of the world. In direct contradiction to all these assertions of Bailli, Sir W. Jones, in his dissertation upon the ancient hordes that peopled the vast extent of northern Asia, describes them in general as a race of undisciplined savages, without the polish of arts, and without even the advantage of letters. The people to whom M. Bailli's description is most applicable, is the northern progeny of Brahmins,

settled near the Caucasus, and in Thibet, where very celebrated colleges of learned Indians were anciently established, particularly at Naugracut, and Cashmere, in which latter region it is supposed very considerable treasures of ancient Sanscreet literature are deposited, which have not yet been examined. Indeed, in express confirmation that the Brahmins, and consequently the sciences of India have not *always* flourished in a situation so immediately southern, as of late æras they have chosen, I am able, upon the high authority of Mr. Hastings, to assert that an immemorial tradition prevails at Benares, that they originally came from a region situated in forty degrees of northern latitude. This, in fact, is the latitude of Samarcand, the metropolis of Tartary, and by this circumstance the position of M. Bailli should seem to be confirmed; but let it be remembered, that it is equally the latitude of that country where the ark of Noah rested; from which venerable personage, and from which favoured country, and its adjoining districts, I must still contend, all the sciences of the post-diluvian world originally flowed.*

The circumstance relative to the Pleiades, which I have more than once alluded to above, as so particularly deserving of attention, concerns the number of stars in that brilliant cluster, as they appear to the naked eye, by which the ancient Asiatic astronomers could alone see them. The name of the Pleiades, understood collectively as a constellation, in Sanscreet is Karteek, and, with singular conformity to the above cited verse of Virgil, Karteek is denominated by the Indians, the general of the celestial armies,† or in other words, the leader of the host of heaven. Karteek was the son of Seeva, the god with the *lunar crescent* on his crown; but by no ordinary process of generation. The story it would scarcely be decent to relate; however, what is a circumstance not

* Armenia is exactly in 40 degrees north latitude: Assyria in 39 of the same latitude.

† See Mr. Wilkins in his notes to the Geeta, p. 145.

a *little singular*, a dove was concerned in maturing the embryo fœtus; and we shall find, hereafter, that the term Pleiades means doves. The dove, too gentle and feeble a nurse for such a gigantic progeny, let it fall into the Ganges; the Ganges, that is the celestial Ganges, the Ganges of the sphere, equally unable to sustain the burthen, cast it upon its banks, where it found shelter among the reeds, and there the child grew up, " a boy, beautiful as the moon, and bright as the sun, whose extraction and origin were visible in his countenance."* Beautiful, however, as he was, Karteek must have perished without proper nutrition, and to prevent his destruction, fortunately there came *six daughters of a rajah accustomed at that season of the year to bathe in the stream*; and each becoming fond of the infant, nourished him with milk from her breast, and named him her son. Miracles are never wanting in the Hindoo mythology; " the enraptured infant (says my authority), assuming to himself six mouths, sucked milk from each of their breasts, and, on that account, one of his various names was Shesti Matria, *i. e.* having *six* mothers." Such is the allegory; and though romantic, when unravelled, it will be found equally pertinent and ingenious.

Karteek is a constellation formed of the stars called the Pleiades; he is therefore properly their offspring; to them he owes his existence. By adverting to the celestial sphere, the reader will perceive that the Indian Ganges, or the Eridanus of the Greeks, commencing its course from the left foot of Orion, runs with various convolutions, under the sign Taurus, through nearly its whole length; Karteek therefore may properly enough be said to have been cherished on the banks of the celestial Ganges. M. Bailli thinks the whole to be only an allegorical allusion to the month of November, when the Pleiades set cosmically; and that they meant no more than poetically to describe that month which in the Hindoo as-

* My authority is a translation of a Sanscreet fragment in manuscript, lent me by Mr. Halhed, and the words included in inverted commas are those of the manuscript.

tronomy is denominated Karteek, as the progeny of the Pleiades.* I am still, however, inclined to the opinion that the fable was rather meant as allusive to the opening of the year by the general of the celestial host, and since Karteek is mentioned by his other name of Skanda, the prince of warriors, in the Mahabbarat, a poem supposed to be 4000 years old, there results evident proof that the fable was then generally known in Hindostan, and that the whole system was already formed. This astronomical reason may therefore be added to those of a physical kind, which I had before assigned for the general veneration of the bull in India, that at the time their wild mythology was first formed the year opened in Taurus, and the Pleiades rose heliacally; which wonderfully corroborates the assertions of the Brahmins relative to the antiquity of that celebrated book. This argument tends also to prove, from the mention of various constellations in it, that an Indian sphere was then actually in existence, and the circuit of the *white horse* flying through the zodiac, which makes so prominent and splendid a portion of that poem, plainly points out to us, at a very early date indeed, the prototype of the *winged Pegasus* of the Grecian sphere. By the six daughters of the Indian rajah bathing at that season in the Ganges, it should seem that river then inundated the country when the sun was in Taurus, notwithstanding it is now at its lowest ebb in May; and possibly we may by this train of argument, discover the source of the allegory of the Cow-head rock, as it is called, or Gangotri cavern, through which the Ganges rushes into Hindostan; but to which no similitude of a cow or bull's head was ever distinguished by the few travellers who have visited that remote spot in upper India. Do they not mean by this fable to keep alive the memory of an ancient tradition, that the inundation anciently took place when the sun opened the year in the first degree of Taurus, allegorized by its flowing into India through the head of a

* Bailli's Indian Astronomy, p. 13.

rock called by the name of the sign ? These discussions, however, though not uninteresting, nor without use, are not the immediate subject of the present inquiry, which is the *number* of the *stars* at that time visible to the eye unassisted by glasses. The whole tenour of the allegory evinces that there were but *six* visible at that remote period, since the *six daughters* of the rajah are only personifications of the six different stars that compose the constellation.

It is plain, however, that the Grecian astronomers in a later age beheld in the Bull's head, *seven distinct stars ;* for their mythological history of the Pleiades represents it as a constellation to which the celebrated Atlantides or *seven daughters* of Atlas, (a regal astronomer who reigned in the west of Africa, and whose name was afterwards conferred on the great range of mountains, from whose aspiring summit he observed the heavens) were on their mortal decease elevated. This Atlas, Diodorus informs us, was the first person who invented a sphere, and was feigned, in consequence, to have supported the heavens upon his shoulders ; which, our author adds, is only a fabulous method of relating an historical fact.* We may remark, by the bye, that this same king had also a son named Hesperus, from the name plainly an astronomical progeny, who was likewise exalted to the heavens, and who was snatched away in a cloud from mount Atlas, in the act of intense observation of the planet that bears his name. How happy was this great astronomer to have his whole family thus immortalized ! His son, in the evening star, has ever in a peculiar manner attracted the attention of mankind ; and his daughters not less in their splendid retreat in the head, or rather neck, of the Bull. The old Indians, therefore, it is evident, saw only six stars, in the Pleiades, and adapted their mythology accordingly : the later Greeks beholding seven, regulated their allegorical account of its first formation by the number of stars at that time discernible ; and in demonstration that no

* Diodorus Siculus, lib. 4, cap 7,

mistake has arisen from transcribers of the Greek writers, or otherwise, we are presented by Diodorus Siculus, in whose valuable work the whole fable with many judicious remarks is recorded at length, with the names of those seven daughters, which are Maia, Electra, Taygeta, Asterope, Merope, Alcyone, and Celæno.* They were called Pleiades, *say the Greeks*, from Pleione their mother. Maia, it should be noticed, was afterwards married to Jupiter, and of that marriage Mercury was the offspring; a fable which doubtless only alludes to some favourable conjunction of the celestial bodies, thus denominated. All these seven daughters of Atlas, before they were translated to the sphere, were married, six of them to Titan princes, who were universally esteemed gods in ancient Greece; but Merope had not the good fortune of such a noble alliance, for she was married to Sisyphus, no Titan prince, but a mere mortal. Merope, therefore, says the Greek allegory, being ashamed of her connection with a mortal, while her sisters were married to divinities, conceals herself as much as possible from human sight, and *is but seldom visible to astronomers.* In this little addition to the fable, in which astronomy and history are so evidently blended, we arrive at a piece of interesting information, that though seven stars had been distinctly seen in Pleiades, on which circumstance the story of the seven Atlantides was grounded, yet that one of them at that time was but *faintly, if at all, discernible.* Ovid, that pleasing fabulist, records this mythological tale in a different manner. After remarking that in ancient periods there were seven stars in the Pleiades, but that in his time only six were visible, according to the verse cited in the preceding chapter, *quæ septem dici, sex tamen esse solent,* he tells us, that the bashful Pleiad, so reluctant to appear, is Electra; and that she, having married Dardanus, a Phrygian prince, had disappeared about the time of the Trojan war, that she might not be a witness of the destruction of Troy, and the ruin of her family:

* Diod. Sic. lib. 4. p. 182.

———Trojæ spectare ruinas
Non tulit, ante oculos opposuitque manus. *Ovid. Fast.* 4.

Hyginus, a still more entertaining fabulist, appears to open to us the genuine astronomical fact in the following relation : " Electra (says he), indignant and afflicted to behold the unseasonable dancing of her sisters during the fatal catastrophe of Troy, relinquished her station in the zodiac, and retired towards the arctic circle. Her motion was irregular and confused, like that of a person penetrated with the deepest anguish ; and upon account of her *dishevelled hair*, flowing in all the negligence of distracted grief, she obtained the name of A COMET.* The Latin scholiast upon Aratus also informs us : " Electram dissolutis crinibus propter luctum ire asserunt ; et propter *comas*, quidam COMETAM vocant."† The result is, that in all probability there never were more than six stars visible for any length of time in the Pleïades, and that the seventh, occasionally apparent, has been either some comet, which having first appeared in that part of the sign Taurus, has moved on from that point of the zodiac towards the polar region ; or some star in that region of the heaven whose light has suffered alternate depression and renovation, according to those vicissitudes, which have in a preceding page been demonstrated to take place among the fixed stars ; the former occasioned by spots floating upon its disk ; the latter by a comet falling in upon it, and kindling anew its decayed lustre. The GREAT BEAR next demand our attention.

Whensoever we cast our eye back upon remote antiquity, it is necessary that our former position should ever be borne in memory, that hieroglyphics were the first written language of the earth. This circumstance is proved by the characters of the most ancient language, known to us, in a very high degree partaking of the hieroglyphic cast. The present Chinese alphabet, when minutely examined, exhibits throughout very glaring instances of this kind.

* See Hyginus on the Pleiades, Fable 192.

† Vide Aratus, p. 246. in notis.

Many of the letters of the Hebrew alphabet, are plain hieroglyphics; the first א, Aleph, has been affirmed to bear a striking similitude to AN OX: the symbol of the deity; the head, the leader, of the herd of letters. The second ב, Beth, which signifies a house, aptly enough represents the object it denotes; "cujus partes precipuas (says Schindler), fundamentum, parietem, et tectum" (cujusmodi Palestina habuit), planum figura ב refert. The Arabic letters are said to have been formed in a great measure after the fashion of the implements that furnish an Arabian tent, as the hunting-horn, the battle-axe, the drinking-cup, &c. By the same expressive hieroglyphic language they described the constellations, and pictured out the form of them to the eye that nightly contemplated them. The constellation which we now denominate URSA MAJOR, or the greater bear, was designated by a WAGGON on the ancient sphere. By that object its form was much better represented than by the present uncouth symbolic animal, with its monstrous tail, longer than the body of the quadruped, independently of the waggon, being so necessary an implement in husbandry, and thefore more naturally occurring as an astronomical symbol to the shepherds of Chaldea. It consists of seven conspicuous stars, from that circumstance also called Septemtriones; four of which are placed in so quadrangular a fashion as to represent the body of a carriage, while the other three placed one before the other, stretch out in a direct line, and to the eye of fancy may present the figure of three oxen, or horses, harnessed, and drawing that waggon through the cærulean fields of the polar heaven.

Such was in all probability the original designation, on the old Chaldaic sphere, of this constellation; which is placed very near the north pole, and which from that situation, as well as the brilliancy of the stars that compose it, was so important an object to those who travelled over the wide and dreary champaign of Chal-

dea and Arabia, or explored the trackless ocean. A considerable interval must have elapsed, and the polar regions have been explored, before mankind could transfer to the WAIN the name of the BEAR; of which animal though the body be not ill designated by the four quadrangular stars, the tail was obliged to be extended to a most enormous length to include the three rectilinear ones. Hence there arises a very probable suspicion, that those who designated it in this manner, had never seen the quadruped itself; and knew it only by report; or, in translating its appellative upon some older sphere, had been guilty of some gross misconstruction, which we shall presently perceive was most probably the case. In the mean time, it is worth while to remark a very curious circumstance in regard to these northern asterisms, that nearly all the hieroglyphic symbols by which the polar constellations are designated, are remarkable for their slow motion, and even when the figure of the asterism was varied, the idea was still preserved, and the ponderous and tardy Wain was succeeded by the slow unwieldy Bear, an animal that is incapable of taking long journeys, and never wanders far from its native regions of the frozen north. By adopting this conduct, the ancients had an astronomical object in view, that of expressing the slow revolution of the high northern constellations round the pole, a point in the heavens to which they were in a manner fastened, and from which it was impossible for them to deviate. For this reason likewise the testudo, or tortoise, that tortoise possibly in which the Indian god, Veeshnu, in his second AVATAR, or earthly descent, became incarnate, that heavy, cumbrous tortoise, which creeps along upon the earth with such a sleepy pace, was exalted to the polar region, because describing so small a circle in the heavens, in comparison of the constellations that are situated nearer the equinoctial line: for as Mr. Costard judiciously observes, "the *ratio* of those circles will be to each other as the *sines* of the

arcs of their distance from the pole; or, what is the same thing, as the *sines* of their complement of *declination*."* For the very same reason, the constellation of Draco, or the celestial dragon, was placed so high in the polar heavens, the slow motion of its vast and tortuous body marking the tedious period of its revolution. Hence too, most probably the LACERTA, or lizard, that creeping reptile, upon the sphere of earth, and the slow sailing majestic SWAN, were elevated to the same lofty, but frozen station.

The stars of the Great Wain, or Ursa Major, served to guide the benighted traveller, surrounded with darkness, solitude, and rapacious savages, over desert wastes of sand, where no other object appeared to gladden and illuminate his dubious path. The wain of commerce was guided in its course by the splendour of that radiant Wain which gleamed around the pole. Cheered by its genial beam, the patient camel pressed on with unwearied step through the eternal sand; and the rich caravan, loaded with the precious drugs of Arabia, travelled on with security and exultation beneath its tutelary ray. I am justified in saying this by the express assertion of Diodorus Siculus, who informs us that the southern parts of Arabia are made up of sandy plains of a prodigious extent; the travellers through which direct their dubious course, *ἀπο τῶν' Αρκτων*, *by the Bears*, in the same manner as navigators guide their vessels at sea.†

When increasing avarice and luxury launched vessels upon the ocean, and adventurous man first left his native shore in quest of distant regions, a more certain guide than even the Great Wain became necessary. That constellation, however magnificent and resplendent, occupied too wide a space in the heavens, to be an unerring conductor on such perilous expeditions: a more contracted

* See Mr. Costard's third Letter on the Chaldaic Astronomy, p. 64; and consult the mathematical figure subjoined, by which his observation is illustrated.

† Vide Diodorus Siculus, lib. 1. p. 136.

field of view became necessary, and a central and immoveable point of observation. The LESSER WAIN, situated still nearer to the pole, was then formed, as the Greeks affirmed, by Thales, but probably long previous to the period in which that philosopher lived, and by those Phœnician navigators to whom all ancient history gives the credit of earliest exploring the great ocean. It was at first called the Lesser Wain, from its situation near the Greater, and afterwards when that name was changed, the Lesser Bear, by which it is at this day more generally denominated among European astronomers. It is pretty evident that the praise of the first invention of this constellation is due to the Phœnicians, since the writers of Greece frequently style it PHŒNICE; and even when they distinguish it by an appellation consonant to their own fabulous history, CYNOSURA, constantly mention it as peculiarly useful to the Phœnician mariners. Aratus confirms what has been advanced above, relative to its being a more certain guide in navigation:

> Certior est Cynosura tamen sulcantibus æquor.*

And again, speaking of the Greeks regulating their naval adventures by the Greater Bear, which they sometimes styled HELICE, he informs us:

> Dat Graiis HELICE cursus majoribus astris,
> Phœnicos CYNOSURA regit.†

The constellation of the Great Bear has been equally known, in every age of astronomy, by the name of the Great Wain as by that of Ursa Major, and as often denominated by the former as the latter appellation. This circumstance affords evident testimony how universally over all the East, where astronomy originated, the designation of this asterism by a wheel-carriage, rather than by an animal, was admitted and recognized. Indeed could M. Bailli's hypothesis be allowed to be founded upon a proper basis, that all knowledge whatsoever, but particularly astronomical knowledge,

* Arati Phænomena, p. 70.

† Arati Phænomena, p. 120.

flowed from an *ancient race of primitive Scythians,* who flourished in an age of such unfathomable antiquity that he has not ventured to specify it, in a district near SELINGINSKOI, in the fiftieth degree of north latitude; could such a romantic hypothesis, so contrary to reason and tradition, be admissible, the *bear,* a native of Siberia, might be considered as a proper emblem to decorate the sphere of a nation flourishing in such a high northern latitude: but as it is far more reconcileable to probability, that the science of astronomy diffused itself from the countries bordering on the equinoctial to the polar regions, the wain of husbandry must still be considered as the more ancient designation. It should seem, however, from the circumstance which I am about to lay before the reader, that the Indians, impressed solely with the idea of its magnitude in the heavens, and its consequence to navigation, had anciently no other name for it, than THE GREAT CONSTELLATION.

The Indians had, in fact, very early and accurately observed it, and this asterism is called in Sanscreet MAHARCSHA, of which the μεγας Αρκτος of the Greeks is a literal translation; but it should be remarked, that the latter member of the Sanscreet word signifies at once *a constellation and a bear.** From this compound Indian word, ill understood, it is more than probable that, on the present sphere, that monstrous production unknown in the polar region, or indeed in any region of the earth, *a bear with a very long tail,* is pourtrayed. Thus that asterism which from its magnitude, the Indians called κατ' εξοχην, *the great constellation,* was by the Greeks transformed into a monster unknown in nature, for no one who had ever seen a *bear,* could ever have depicted the animal in this manner. In similar mistakes may *possibly* have originated the other monsters, equally unknown to nature, and delineated on our sphere; dragons with *hairy heads,* and *crooked dolphins.* With

* See Sir William Jones in the Asiatic Researches, vol. II. p. 403.

respect to the head of the Draco, which is represented so enormously out of nature, as to resemble that of a bird rather than any animal of the serpentine kind, I beg leave on this subject to offer one general observation. In my opinion, all the figures on the sphere composed in this mixed heterogenous manner, of the parts of animals of opposite character and genius, are to be considered as of Egyptian origin; and the offspring of that hieroglyphic taste for which they are so remarkable, by which they meant to shadow out the attributes of their gods, or the vices, virtues, and other distinguishing properties of men. This grotesque style of designation was totally contrary to the genius of the Greeks, who in all their paintings and sculptures studied elegance and correctness, and avoided whatever was of a forced and monstrous combination. The Greeks however, when they borrowed the asterism, invented for it a new fable, and converted, what I shall hereafter offer some reasons to prove was a designation of the evil principle in nature, or, in other words, the malignant reptile by whose delusions mankind were plunged in ruin and misery, into the celebrated dragon of the Hesperides; the vigilant animal that *guarded the golden apples;* a romantic story probably founded on some mutilated, misconceived tradition of the *fall of man*.

Resembling the *crooked dolphin* of the sphere, no fish tenants the watery world: its head is rather the head of the PORPUS, or sea-hog, than that of the fish alluded to, which, by some unaccountable whim of painters and sculptors, has in every age been converted from a straight and beautiful, into a monstrous and distorted animal. It is very remarkable that in Sanscreet, the word SISUMARA, which properly means a sea-hog, is also applied to a fish of the dolphin kind, and that fish is represented in their symbols, with the posterior portion of its body twisted after the very singular manner of the dolphin of our sphere; I mean after the best engraved tables of the celestial sphere, published by Flamsteed, upon the classical

accuracy of which, and the resemblance of its mythologic figures to the truest astronomical designs of antiquity, entire dependance may be placed.

The Indians, according to the Bhagavat, have conceived a sphere formed after the manner of a sisumara, with its head turned downwards, and its body bent in a circle; on the point of its tail they imagine DHRUVA, or the pole-star, to be fixed, which is a circumstance extremely remarkable, as the pole-star, in our sphere, is in like manner fixed on the very point of the tail of the Ursa Minor; in the middle part of the tail they see four stars, whose Sanscreet names are Prejapati, Agni, Indra, Dherma, and on its base two others, Dhatri, and Vidhatri; on its rump are the Septarshis, or seven stars of the SACATA, or wain; a proof that our Ursa Major was known by this name in India when the Bhagavat was composed; on its back is the path of the sun, called Ajavithi, or *the series of kids*, on its belly the GANGA of the sky, the Grecian Eridanus. I omit the remainder of this curious description, of which Sir William Jones has given a translation, by way of specifying the fabling and allegorizing spirit of the Brahmin astronomers.*

Of kindred race with the Pleiades are the HYADES, another assemblage of stars, six in number, situated also in the head of the Bull. They were, according to the Greek mythologists, whose astronomical fables are detailed by Aratus, daughters of the same Mauritanian sovereign, by his other wife Æthra, and from their pious love to their brother Hyas, who was torn in pieces by a lion, and for whose death they were inconsolable, were by Jupiter, who compassioned their sorrows, placed in that sign of the zodiac. Their inextinguishable grief still manifests itself in floods of tears, for rain infallibly attends on their rising and setting. This is a very elegant and pertinent allegory of the Greeks, to account for the last mentioned circumstance; their name of Hyades, however, is more

* See the whole in Asiat. Research, vol. II. p. 402.

probably derived ἀπο τȣ ὕειν, PLUERE: which may be only a translation of some Oriental primitive, for undoubtedly the Chaldeans had long before observed the same circumstance; since a minute attention to the atmospheric phænomena that attended the rising and setting of the stars, was absolutely necessary to those who could only from those appearances form a proper judgment.

——quo sydere terram
Vertere, et ulmis adjungere vites.

They are plainly, like the preceding cluster, the astronomical offspring of him who was fabled to have formed the first sphere; and possibly all that is intended by the fable is, that he earliest discovered these two clusters of stars, and formed them into separate constellations. Virgil in the following lines has characterized the Hyades according to the husbandman's observations, and indeed has brought before us in one view, nearly all the constellations that form the subject of this disquisition:

Sydera cuncta notat tacito labentia cœlo,
Arcturum, PLUVIASQUE HYADAS, geminosque Triones,
Armatumque auro circumspicit Oriona, *Æneid*, 3, 515.

and Horace, in his ode on the departure of Virgil for Greece, mentions the constellated sisters as objects of not less alarm to navigators than the fury of the south wind, that agitates with storms the Hadriatic gulph:

Nec TRISTES HYADAS, nec rabiem noti:
Quo non arbiter Hadriæ
Major, tollere seu ponere vult freta 1 *Carm*. 3. 14.

BOOTES, the sixth of these ancient Greek constellations, was on the ancient sphere universally designated, and in the primitive astronomy invariably denominated *the Celestial Waggoner*, for as there are two wains in the arctic circle, it was but proper they should

have a guide to conduct them, and a driver to urge on the slow progress of the labouring steers that drew them round the axis of the world. In direct unison with his character is the name which he bears, for that name, according to Dr. Hyde, in Ulug Beg's Fixed Stars, is deduced from απο τȣ βοος, *et* ωθειν *pellere*, literally *the driver of the bull;* but if the waggon be converted into a bear, his office in the polar skies is annihilated, and the Bubulcus Celestis, as that writer on Oriental authority denominates him, must seek some other region for the exercise of his rural function.* All these circumstances united, I think exhibit manifest proof that this constellation is no more the invention of Grecian astronomers than the preceding.

The nearer we approach the pole, where probably constellations were first formed to guide the traveller through the deserts of Arabia, and the navigator over the trackless ocean, we may expect to find more immediate allusion to the history of the earliest æras of the world. It can scarcely admit of a doubt but that in Bootes, who, in the engravings published in the Poeticon Astronomicon of Hyginus, copied after the most ancient and authentic designs extant,† is drawn with a shepherd's crook, or crosier, in his hand, the ancients intended to immortalize the person who first taught mankind agriculture, and yoked the first oxen to the *plough,* for so the wain in old systems of astronomy has been denominated, and who that was, has been already plainly enough intimated. *In fact,* in this as well as in a thousand other instances which will presently be pointed out and enumerated, the object of their never-ceasing attention and admiration was the great patriarch, with the pious and benevolent acts by which he was distinguished; that venerated patriarch who was called the true father of husbandry, and the planter of the first vineyard. We shall again find him in the sacri-

* See Hyde's Notes on Ulug Beg, p. 15.

† The edition here alluded to, and throughont cited by me, is the octavo one by Muncker, 1681.

ficer of the same sphere; and we shall discover there both the *altar* which he erected, and the *vessel* in which he was preserved. All these assertions will doubtless be imputed to fondness for a particular system; but that system is at least as good as Bailli's, and far preferable to Buffon's.

Concerning the Lesser Wain, having already troubled the reader with various observations, I have less occasion to enter into any very minute details, relative to that constellation. One of those observations was, that the necessity there was for greater precision in marine, than land expeditions, probably gave occasion for the forming into a constellation the stars of the Lesser Bear. The brilliant and steady light shed by the pole-star, which is situated in the centre of the arctic circle, was their unerring guide in those distant and hazardous expeditions: hence it arose, that in the hieroglyphics of Egypt this constellation was considered as an emblem of stability. Deprived of the blessing of the guiding light of the two grand northern constellations, the Greater and the Lesser Bears, they could not have explored the ocean, nor traversed the desert.—A more tremendous curse could not have been denounced against them, than that of the obscuration of those important constellations, nor a more dreadful calamity befall nations addicted to commerce This preparatory reflection will shew the beauty, propriety, and sublimity of that passage in Isaiah, where the guilty race of Babylon are menaced by the prophet, that *the stars of heaven and the* CHESILIM *shall not give their light.** By the CHESILIM thus mentioned in the plural number, it is plain that the prophet meant *the Wains,* and the allusion to these particular constellations, devoted to the observation of them as the Chaldeans were, is a circumstance remarkably pertinent and forcible. Thales is said by the Greek writers to have first classed into a constellation the stars of the Lesser Bear; but as the Phœnicians were prior navigators, the latter were most

* Isaiah, xiii. 10.

probably the inventors of it; and its name of Phœnice mentioned before, affords very strong evidence in favour of that supposition. The Greeks knew it only by its name of Cynosura; they depended, however, equally upon it in navigation, as we may collect from the verse extracted from Aratus in a preceding page.

The Grecian fable of Cynosura is scarcely worth repeating, after what has been remarked above relative to its Phœnician origin; however, the outlines may be briefly recapitulated. By some of their mythologists, she is represented as one of the Idæan nymphs that nursed the infant Jupiter. Calisto, as the Ursa Major, is also said to have been one of those nymphs; and for this attention to the young sovereign of heaven, they were taken up together into the skies. All this may be only an astronomical allegory, founded upon the vast distance from our sphere of the planet Jupiter, and the remote northern situation of these constellations, which were therefore esteemed proper nurses for a personified planet, performing his revolutions in an orbit so remote. According to others of them, however, Cynosura was only one of the *dogs* of Calisto the huntress, and friend of Diana: a fable which her very name appears to justify, since it is compounded of κυνος, and ȣρα, *canis cauda*, the tail of a dog; probably its ancient designation on the sphere.

Thus have we gone through the history of these, which are called the oldest Greek constellations. Venerable for antiquity, however, as they are, it must have been very evident to the reader, that they are but copies from some still more ancient sphere.

In the very same manner, and by the very same rules by which the preceding constellations, situated for the most part in the NORTHERN HEMISPHERE, have been examined, I shall hereafter proceed to discuss the origin and history of many of the constellations situated in the ZODIAC, and in the SOUTHERN HEMISPHERE. The result, I am confident, will be a very powerful corroboration of the hypo-

* Isaiah, xiii. 1.

thesis which I have laid down, that they are the fabrication of an earlier race than has been generally supposed; a race by many centuries more ancient than the Greeks, and divers of them allusive to a far more noble system of theology. Indeed, from the whole of the evidence collected together, and brought before the view of the reader in this chapter, it must appear to him that the assertion of Mr. Costard, in another celebrated work published by that gentleman, is indubitably established; either that the sphere of the Greeks was composed from those of the Chaldeans, Phœnicians, and Egyptians, at different periods, and by degrees, but new modelled by them, and accommodated to their *fabulous history;* or, what is more probable, and what in several instances has been proved to be the case, that their *fabulous history* is nothnig more than a corrupruption of the exotic names of the constellations already formed.*

* Costard's General Hist. of Astronomy, p. 52.

CHAPTER VII.

The true Epoch of Empires to be fixed, and the Period of their proudest Glory to be partly ascertained, by an attentive Examination of the astronomical Mythology prevailing in particular Æras—Egypt, for Instance, flourished in its meridian Splendour, when the DOG-STAR, *rising heliacally, received the Adoration of that Nation—China, of which Empire the* DRAGON *has immemorially been the symbolical Device, when the Star α in Draco, being in the solstitial Colure, was considered as the* POLE STAR, *benignant to a maritime Race—Chaldea, when the Pleiades rose heliacally, and Taurus opened the Year—Persepolis was founded, and the Persian Empire established when, according to the ancient astronomical Records of that Nation, the Sun was in the first Degree of Aries; a Circumstance farther proved by Persian Coins of a most ancient Date, stamped with the Sign of the Ram—The Æra of Phœnician History commencing with the Building of Tyre, and the Worship of Hercules, is probably to be fixed when Leo was the solstitial Sign, for the Triumph of Hercules over the Nemæan Lion, by which is allegorically to be understood the* SUN *in his Strength in the Lion of the Zodiac, forms the first of the* TWELVE LABOURS *of that Hero. The Epoch and various remarkable Periods of the* INDIAN *Empire,* possibly *to be determined by the same astronomical Criterion—The primitive Oriental Denominations of the* SEVEN PLANETS *inquired into, and the Greek Names proved to be either the same Words with different Terminations, or else literal Translations of Asiatic Words.*

BEFORE we enter upon the more immediate subject of this chapter, which will be the primitive Oriental names of the SEVEN PLANETS and the history of the personages deified in them, there is a point of

a very interesting and important nature in ancient historical disquisition to which I wish to direct the attention of the reader. For in fact, the deeper we have occasion to penetrate into the annals of antiquity, we shall find increasing reason to believe that national records in very distant æras are solely the records of astronomy. By attention to this circumstance the epoch of empires, otherwise buried in oblivion, may be obtained, historic difficulties explained, and mythology illustrated. Thus in Egypt, the heliacal rising of Sirius with which the year anciently began, marks the period of the commencement of the Egyptian empire; for by retrogressive computation, as well as the calendar of Ptolemy, we find that Sirius rose heliacally in Egypt 2000 years before the birth of Christ; and therefore the probable inference is, that Egypt flourished a great and powerful empire near 4000 years ago: a fact agreeable to history and greatly corroborated by the monuments of its grandeur yet remaining.

Every body at all acquainted with the Chinese history, knows the profound veneration of that nation for the dragon, which is not only the stamp and symbol of royalty in that country, but is sculptured in all their temples, blazoned on the furniture of their houses, and woven in their vestments. Let us inquire if it be not possible by the same mode of reasoning to account for the general homage paid to this astronomical symbol in China. Draco is a large and conspicuous constellation near the north pole; and Dr. Long, treating concerning the Chinese astronomy, informs us that 2800 years before Christ the star α of Draco was in the solstitial colure; he adds, that it must have then been about ten minutes from the pole, and that it might consequently have been thought the pole star and fixed immoveable in the heavens.* The Chinese shepherds and mariners, therefore, blessed its friendly light; and Draco, though now a baleful and dreaded, was at that time considered as a friendly

* See Dr. Long's Astronomy, vol. II. p. 662.

and benign constellation by the Chinese. Some more zealous enthusiast amidst the imperial race of Chinese astronomers adopted the splendid constellation of Draco for the royal arms, and it was thenceforth engraved on the diadem and sceptre of China, and on the rich vases and utensils of the palace. That this conjecture rests upon a better basis than mere imagination, the following evidence may be brought. Among the ancients, I have before observed the terms Serpens and Draco denoted the same object, a large snake; but the Draco of the skies is formed, about the head, in a very peculiar manner, and as no imagined terrestrial dragon ever was represented, and no real serpent ever was formed. It exhibits, indeed, strong marks of the hieroglyphic cast, for that head bears great resemblance to that of a bird of prey, being of considerable magnitude, and covered with hairs; yet it has neither the wings nor the feet of the supposed terrestrial dragon. With this description of the celestial Draco, which is given from the best designation of it in Flamsteed's large Atlas, let us now compare the account of the dragons pourtrayed in the royal observatory at Pekin, as minutely described by Le Compte. The great armillary sphere of that observatory, six feet in diameter, is supported "by four dragons' heads, whose bodies, after several windings," (probably imitative of the convolutions of the celestial Draco) "are fastened to the ends of two brazen beams, placed transversely, that bear the whole weight of the sphere. These dragons, which were made use of rather than any other symbolical animals, because the emperor bears them in his coat of arms, are, *as the Chinese represent them, wrapt up in clouds, with long hair on their heads* between their horns, a short thick beard under their lower jaw, flaming eyes, long sharp teeth, their mouth open, and breathing a stream of flame."*

* See Le Compte's Memoirs of China, p. 65. London edition.

If the authorities cited in various parts of the Astronomie Ancienne of Mr. Bailli* and the Researches of M. D'Ancarville,† be deserving of credit, which, from the exaggerated chronology, may be reasonably doubted, Istakhar, or Persepolis, was founded, and the Persian empire commenced in the year 3209 before the Christian æra, when the sun entered into the constellation of Aries. In memory of this great event medals of gold, with the head of the ram engraved upon them, were annually presented to Gemshid, the founder of that city, on the festival of the Nauruz, or new year's day in Persia. The custom was preserved from age to age through all the imperial dynasties of Persia; it was in periods comparatively recent practised by those Indian monarchs who were of Persian descent, and gave birth to the splendid annual ceremony of weighing the Mogul against gold and silver, of which Sir Thomas Roe in his journal has given such a particular and entertaining account.‡ We have, doubtless, a vestige of the general mirth and hilarity prevailing during that Eastern festival in this country, imported by that Asiatic colony who transported themselves and their national habits hither, in the old custom of *making fools on the first of April:* of which month the ram is the astronomical asterism, and which humorous frolic still distinguishes the Nauruz festival in Asia. My assertion relative to the very ancient connection, or rather consanguinity, of the Persians with the Indians, is greatly corroborated by the circumstance of the Indian year beginning in April; for it commences, according to the present European calculation of time, on the eleventh of that month. Mr. Crauford, to whose accurate account of the smaller divisions of time in India, I am indebted for this information, adds, that the latter divide their year "into two equal parts, the one comprising the time the sun is to the south, the other to the north, by an annual equinoctial feast."§

* See Bailli's Astron. Ancienne, p. 354.

† D'Ancarville, vol. III. p. 115.

‡ Sir Thomas Roe's Journal in Harris's Voyages, vol. I. p. 626.

§ See Mr. Crauford's Sketches, vol. I. p. 292.

The reader has only to compare this passage with the description of the Egyptian festival of Osiris and Isis, given by myself from Apuleius, in the third volume of the Indian Antiquities, to be convinced that in this respect their rules are not less congenial with those of the sons of Misraim, than those of Elam, and that in fact, the whole evidently proves their descent from ONE GREAT PRIMEVAL FAMILY.

By the same retrogressive calculation, regulated by *the precession of the equinoxes,* after the rate of seventy-two years to a degree, it may be ascertained, that to the inhabitants of Chaldea the Pleiades rose heliacally, or, in other words, that the vernal sun was in the first degrees of Taurus, about the period of the deluge. Thus it was under the favourable rising of those stars, which by heathen writers are observed to have been so friendly to all mariners, that the ark of Noah commenced its voyage on the waters which overspread the earth; and perhaps it was owing to this circumstance, of the universal inundation taking place when the sun was in the sign Taurus, that the bull was an object so generally distinguished and venerated in the several systems of Asiatic theology prevailing in that period, as both history and mythology unite in demonstrating that it was; that the ark itself, according to Mr. Bryant, was denominated Κενταυρος;* that the great patriarch was constantly symbolized by the bull, that to nearly all the great personages of remote antiquity the epithet of ox-like is applied, and that they are adorned with the horns of that animal. The oldest deity of the Phœnicians was Hercules, and the Phœnician Hercules is acknowledged by the ancients to have been the most ancient of all those that bore the name. Now, that Belus was the true Phœnician Hercules, I have little doubt of being able to demonstrate hereafter; both their names are equally applied to the sun, but the latter term more particularly to the sun in his strength. Belus seems to have been the common Oriental name of all bold and daring adventurers, who were thence

* See Analysis, vol. II. p. 440.

called Belidæ, or the colonies of Belus. Belus is expressly said by Eusebius to have led a colony into Phœnicia,* and Nonnus as expressly asserts, that this Belus came from the banks of the Euphrates.† Phœnicia was not less, than India and Chaldea, the nurse of early science, particularly of astronomy and language. The former science was necessary to carry on their extensive traffic to every quarter of the world; the latter was important, as a mode of communication and intercourse with the several nations with whom they traded. The Phœnicians seem, like every other ancient nation, to have deified their greatest hero both in the sun, and in a constellation. The large constellation bearing his name in the northern hemisphere was most probably of their invention. The ancient Pagan account of the æra in which Tyre was founded, and the temple of Hercules in that city was erected, accord in a remarkable manner with the Scripture chronology of Nimrod or Belus, which fixes his greatest celebrity as an Asiatic monarch to about the year of the world 1800:‡ for Herodotus affirms, that Tyre was founded 2300 years before the age in which he himself flourished; § or about five centuries before the Christian æra. At that period the vernal equinox was in the first degrees of Taurus, and consequently the summer solstice was in the first degrees of Leo: whence their great hero Hercules, or, in other words, the sun in his greatest strength, was then said to be subduing the furious Nemæan lion, as he afterwards did the Lernæan hydra, the hydra of the sphere, by the superior lustre and potency of the solar light extinguishing that of the stars of the hydra, which set, or became occult when the sun rose.

In the preceding chapter, I have shewn that a system of mythology more ancient than that of the Greeks did actually flourish in the earliest ages. I now proceed to offer the most solid proofs which

* Syncellus apud Eusebium, p. 126.

† Nonnus Dionysiaca, p. 83.

‡ Vide Usher's Annales, p. 5.

§ Vide Herodotus, lib. 4. p. 185.

so abstruse and complex an argument will allow of, that this system of more early mythology, is but a corruption of the true history of the most ancient periods ; and that in it, may be discovered very strong traits of the leading characters, who, according to the Mosaic narration, made the principal figure on the theatre of the infant world ; by that expression I would be understood to mean the post-diluvian world, which alone concerns the present race of mortals ; for though there can be little doubt but that the history of the ante-diluvian race and their transactions was preserved in the family of Noah, and that a portion of ante-diluvian science, especially astronomy, remained among his early posterity, yet it would be the utmost rashness to attempt the establishing of any hypothesis upon the slender basis of what we know relative to the ante-diluvians. We are not left, however, in total darkness on the subject of events that happened before the flood, and possibly to that æra, if the whole be not a mere astronomical dream, may be referred what the Brahmins so confidently relate in respect to the immense duration of the world during the three prior Yugs, the unfathomable antiquity of the sciences, and the puranas and sastras in which they lie dormant, as well as the venerable sages who composed them, MENU and JAGE-BULK.* Upon any other foundation, even the attempt to defend their existence beyond the æra of the flood must be equally romantic and preposterous ; far more so than that of a very learned but mistaken antiquary, whom I have the pleasure of knowing, and who contends that the pyramids of Egypt are ante-diluvian fabrications.

The sun, the moon, and five revolving planets, being the earliest objects of human contemplation, we may naturally expect to find these conspicuous luminaries allotted for the habitations of the

* See Mr. Halhed's Preface to the Code of Gentoo Laws, p. 41. The pretensions of these sages, and their productions, to such amazing antiquity as that they pretend to, will be examined in a future page. The first MENU, is ADAM.

deified ancestors of a race who were earliest addicted to the Sabian superstition. It has already been repeatedly observed, that in the Pagan world the Sun was considered as the sovereign deity. The source of light, and the principle of nutrition, their gratitude induced them to adore that star as a god. Inspired with kindred gratitude for the beneficent Noah, the parent of the renovated world, they consigned his departed spirit to the same orb, and he became at once (I assert it with all deference to Mr. Bruce) the Osiris of Egypt, and the Dionysius of India and Greece. In every retrospect towards the history of Noah, it was impossible for them to lose sight of THE ARK, in which the patriarch and his family were so miraculously preserved. Now the ark, exhibiting the form of the lunar crescent, the moon in that state was considered as the memorial symbol of the voyage; and from her Oriental appellative of Mene, he was also called by a similar name; being the Menes of Egypt, and the Menu of India. This first great family and their immediate descendants, were consequently denominated all over the East the *children of the sun and moon;* and in India, where the annals have been less disturbed by those revolutions that have successively convulsed and subverted the neighbouring empires, the primitive denomination still remains unaltered in their most ancient race of rajahs. The motions of these orbs gave existence to the divisions of time; the transactions of the renowned heroes, canonized in them, form the basis of history. But those motions were not, at first, well understood; and thence has arisen the great uncertainty of ancient chronology, while those transactions have been obscured by fable, and perplexed by the vanity of rival nations. I shall not be afraid of giving disgust by prolixity in the farther examination of this novel and momentous question.

It has been before observed that the Greek word Ηλιος, THE SUN, was immediately formed from the Hebrew root EL, modelled after the Greek manner of pronunciation: EL signifies lord, and from it

most of the Oriental appellatives of this orb, and this great family are derived. In the latter sense, we find it in the great Belus, or Baal of Chaldea, and in the renowned Bali of India; in the former, the word occurs in Baal-Shamin, the lord of heaven; and in Balbec, or beth, the temple of the sun. The colonies that, issuing from Chaldea, peopled the infant world, were called Belidæ, and Baalim. In the Assyrian dialect it was called PUL, whence with the prefix AB, or AP, father, the Greeks obtained their other denomination of this orb, Apollo. By the solar revolution the first inhabitants of the world did not regulate their time, but by that of the moon; because her orb performed its revolution nearer the earth, and in a shorter period than any other of the celestial bodies.

Μηνη, the Greek name for the moon, Mr. Costard is of opinion, was probably derived to them from the Chaldee MENAH, enumeravit, supputavit; and he notices it as a remarkable circumstance that Yarah, the Arabic appellation of that planet, signifies also a month; which seems to intimate, as if the oldest measure of time, taken from the revolution of the heavenly bodies, was only a month.* Thus we see that Eastern etymology, in which I can engage upon such firm ground, with this celebrated Oriental astronomer for my guide, reflects very important light upon the subject of our discussion. Independent, however, of this aid, whatever might be the original limit of their calculations, it has been already sufficiently shewn that the term YEAR admits of no precise meaning being affixed to it. The Oriental substantive is derived from the Hebrew verb SHANAH, the literal meaning of which is ITERARE, to journey over, and is applicable to the periodical return of any revolving body: hence the Latin word annus, quasi annulus, a ring, or circle, that returns into itself. On this subject, however, I have observed, enough has been already advanced; nor is there occasion to dwell with minuteness on the varied mythologic history of two planets, to which in every

* Costard's Astronomy, p. 95. ubi præced. et sequent.

age and country of the world, the greatest monarchs and the most distinguished characters have been successively elevated. We, therefore, now proceed to consider the Asiatic appellatives of the other five planets, which coming to us immediately from the Greeks and Romans, we distinguish by the names of Mercury, Venus, Mars, Jupiter, and Saturn.

Blest with an open country, and a serene sky, the Chaldeans were enabled to observe the heavenly bodies, which in those countries shine forth with a brilliancy unknown in European climes, with incessant vigilance, and with unwearied attention. They soon remarked, that one order of them glided along the heavens with a slow but continual progress, while another remained immoveable in their places; the former, therefore, they denominated *planets*, or wandering orbs; and had they not been perplexed by the motion of the earth itself, they would probably with accuracy have stated the periods of their various revolutions. These orbs they, in time, distinguished by names descriptive of their supposed properties and influences. By endeavouring to discover what those names were, we may possibly obtain some new light into the sidereal speculations of that ancient race. I shall begin with investigating the etymology of Saturn; an orb in situation the most remote, but by no means the least important in history and mythology.

Diodorus Siculus confesses that the Chaldeans called the planets by the very same names by which the Greeks used to distinguish them.* This confession is of very great importance, since the elder nation, it is most probable, were the inventors of those names. *Φαινων*, splendens, is the Greek appellative for Saturn: it seems to have been used in the sense of *lucus a non lucendo*, for the orb of Saturn is the least resplendent of all the planets. It is probable, however, that they only gave a Greek termination to the Chaldaic word PHANAH, which signifies the exact contrary, divertere se, de-

* Diodorus Siculus, lib. 1. p. 116.

clinare; which description perfectly coincides with a planet whose property it is rather to decline and turn aside from our view, than to court it. The planet Saturn, therefore, Mr. Costard observes, was most probably called PHEN, or PHAIN, by the Chaldeans, on account of his withdrawing himself, by reason of his great distance. The smallness and weakness of his light, together with the slowness of his motion, render him at all times scarcely distinguishable from the fixed stars that surround him. The Sanscreet title of this planet is SANI, a term which being not very dissimilar in structure or sound, it is very probable had the same origin. The Roman name of this planet, which some have derived *a satu*, from sowing, Mr. Costard is of opinion was, in fact, derived from the Oriental word *sater, latuit, abscondit se*, which is consonant enough to its lying hid, as it were, among the distant fixed stars. Hence possibly, with a Roman termination, the word Saturnus; but were I not fearful of being represented as too much addicted to hypothesis, I should venture to assert, that the true origin of the word might be found in the SATYA, or perfect age of the Brahmins. By what channel a Sanscreet word should find its way to Rome, will not be a thing difficult to be conceived by those who consider the race whence the Trojans descended, and how widely the Phœnicians spread the sail of commerce over the ancient world; those Phœnicians who had immemorially and extensively trafficked with the Indians, and exchanged the tin of Baratanac, or Britain, for the rich silks and fine linen of the superior India, and the gems of the Peninsula. The other Greek name of Saturn, which is Κρονος, deserves notice, for it is of the same import with the Sanscreet CALI, or time. In fact, Saturn, in the ancient mythology, seems to be nothing more than the personification of TIME, that glides along with silent step, and imperceptibly brings round the great revolutions of nature. He is the *tempus edax rerum*, that devours his children, the revolving years; and by the Hindoos, as we have seen in the Indian Antiquities, his

aspect is ever dreaded, and malignant.* But his eldest son Jupiter, the next planet in order of the five, rising with benign aspect, and commencing a more genial reign, checks the malignant influences of his father, binds him in chains, emasculates his vigour, and rends his empire from him.

Such is the Eastern mythologic history of this planetary god; but it must be owned that, in the west, the history of Saturn materially varies: there he is the mild and beneficent prince; the patron of agriculture, and the promoter of sciences. The age in which he flourished, was emphatically called the Saturnian, or golden age, when men had every thing in common, and in memory of which the celebrated feast of the Saturnalia was established at Rome. His reign was the reign of justice, plenty, and felicity; and his character strongly partakes of that of the great patriarch, with whom historians have often blended him. The Janus, and Saturn of the Western world, assuredly mean the same person, and are as assuredly only mythological characters of Noah. The first was called bifrons, or two-faced; consonant to which may be seen in Vaillant, and all the antiquaries, medals of this deified mortal, bearing two heads joined by the hinder parts, and often with the prow of a ship on the reverse. In Macrobius,† one of the best mythologists of antiquity, may be found an ample account of Janus, worthy the attention of those who wish more fully to investigate his history, but too

* See *Indian Antiquities*, Theological Dissertation, vol. II. p. 302. The passage alluded to, is exceedingly curious. I insert it below for the benefit of those who may not have my former work, which is now, by the kindness of the public, grown very scarce, and will not be reprinted in octavo. My information was derived from an authentic source, M. Sonnerat. "Sani, or Saturn, is the god who inflicts punishment on men during this life; he approaches only to annoy them; Saturday is the day of the week sacred to him. The Indians entertain dreadful apprehensions concerning him, and offer to him conciliatory prayers. He is represented as of a *blue colour;* he has four arms; he is mounted upon a *raven;* and is surrounded by two serpents, whose entertwining bodies form a *circle* round him; possibly his RING." Sonnerat's Voyages, vol. I. p. 63.

† Vide Macrobii Saturnalia, lib. 1. p. 226. Edit. Variorum, 1670.

long for insertion in these pages. Among much other curious information, he acquaints us that his two faces denoted that he knew both *past* and *future* things; and that the fingers of his statues were joined together, in such a manner, as to express the number 365 (more probably 355 as it stands in Pliny), the days of the year; a token of his great progress in astronomical science. Sometimes the medals of Janus represent him quadrifrons, with four faces looking towards the four cardinal points, a circumstance which immediately brings to our recollection the Brahma of the Indians. Such are the histories of the Eastern and Western Saturn; the one is plainly the physical history of the planet, according to the superstitious notions of the Oriental philosophers; the latter is the history of the deified mortal, who swaying a righteous sceptre, for his wise and virtuous reign was, when dead, exalted to that bright but distant abode. It has probably arisen from the injudicious attempts of the ancients to blend the supposed physical influences of the planet with the moral qualities of the canonized mortal, whose soul was conceived to have taken possession of the orb, that such jarring contradictions and endless confusion in ancient mythology have originated. The opinion of the Brahmins in respect of the good or evil aspect of the planets, is expressed in their almanacs. Their names for those planets, except in the instances of Sani, and Boodh, Saturday and Wednesday, vary in different regions of India; as may be seen by those who will consult Mr. Halhed's and Mr. Sonnerat's list of them,* as either the Tamulian or Bengalese systems of astronomy are adverted to. To give them, therefore, would only confound the reader: but I shall constantly, during this inquiry into the original names of the planets, mark the good or evil character of the day over which each planet presides; and Saturday, or

* The former may be seen in the preface to the Code of Gentoo Laws, p. 41 of the quarto edition; the latter in Sonnerat's Voyages, vol. I. p. 247. Calcutta edit.

Saturni dies, as may be conjectured from the preceding statement, is marked in the horoscopes of the Brahmins as a day of *evil omen*.

Ζευς, JUPITER, the next planet in order, is a Greek word which is generally derived from ζεω, ferveo; but that term could never surely, with any propriety, be applied to a planet which receives from the sun a degree of light nearly thirty times less than what our earth enjoys. For the origin and meaning, therefore, of this appellation, we must look to some other country and language. The direct Assyrian denomination, however, of this planet is lost in the gulf of time; from the Chaldee SEVAH, exultare, Mr. Costard is not inclined to derive it, although the scanty fragments of the Chaldee language that have descended to us, of which the Jewish Targums are the principal remains in our possession, allow no other immediate root for the deduction of it.

He traces its etymology to the Arabic DU, or DSU, a word which signifies LORD; whence he conceives are derived the Dyu of the Welch, the Deu of the Cornish, Due in the Armoric, Dia in the old Irish, and the Deus of the Latins. The word Dew, and Diva, however, constantly occurring in nearly the same sense in Sanscreet, as in Dewtah, and Divatah, I cannot avoid putting in a claim for the Hindoos on this occasion, whose language bears a striking similitude to the old Chaldee. We read in Mr. Wilkins's Bhagvat Geeta of the Great DEW, or aerial lord Danwantara.* The planets, in fact, are represented in the Mahabbarat, as personified DEWTAHS; and it is remarkable that the Indians have a DIVESPITER, in Eendra, their god of the firmament, endowed with exactly the same functions as the Grecian Jove. The supreme Dew, therefore, or Divespiter, of the former nation, we may fairly conclude is the Jupiter of the latter, for in this instance also the elder nation have a prior claim to the honour of the mythological invention. The

* See Bhagvat Geeta, p. 82.

first Jupiter then that ever reigned, was the Jupiter who is in the sky thus distinguished; by that reign is meant the revolution of his orb, and the influences which he sheds or is supposed to shed, in various conjunctions, and oppositions, during his progress through the heavens, constitute the sole power with which *this* sovereign Zeus or Deus was invested. His thunder bolt is the electric flame, his eagle the swift wind that wafts it. There can be no doubt but that, according to the usual method adopted by Oriental parasites, some illustrious personage in remote fabulous antiquity would be exalted to this glorious planet; still that event could not have happened earliest in Greece; but wheresoever this species of mythology was first invented, and that from incontestible evidence has been proved to have been in the Greater Asia, or Egypt, where astronomy was immemorially cultivated, and where a complicated system of allegorical mythology even to this day universally prevails. It was impossible, indeed, for the beautiful and refulgent sphere of Jupiter to be long without a terrestrial tenant of character and fame equally brilliant and attractive. Mythology grafted upon physics the delusive tale of royal flattery, and a monarch of the most exalted and extensive renown in all antiquity, was soon selected for the purpose.

As the whole current of tradition, the voice of history, and the antient feast of Saturnalia, in which were commemorated the primeval simplicity of manners and virtues flourishing in the *golden age*, unite to point our attention to Noah, as the true Saturnian sage; so are we not less decisively guided by sacred, as well as Pagan records, in asserting that to the planet under consideration the soul of his son Ham, the true Jupiter Hammon of antiquity, was by the Egyptians, among whom we can alone look for the historical details of Ham, by canonization exalted. That ancient nation, indeed, in the Coptic word Amun, whence the Greeks formed Αμȣν, seem to have preserved the patriarch's name unaltered,

and Egypt itself is in Scripture frequently called the Land of Ham. To such a height did they carry their veneration for the great founder of their empire, that we find him immortalized both in a planet, and a sign of the zodiac, since Aries, or the ram, his peculiar symbol, was universally designated among the hieroglyphics engraved on the temples of Egypt. Thursday, or Jovis dies, is a day of good omen with the Brahmins.

Having thus particularly noticed Ham, the first mentioned, but the third in real order of the sons of Noah, I shall deviate for a moment from the subject, briefly to state that the virtuous and amiable Shem was the mediatorial Mithra, or in other words, the solar deity of the ancient Persians; and that Japhet, by whose posterity *the isles of the Gentiles were peopled*, and who was undoubtedly the Greek Neptune, was exalted to the sphere under the name of Canopus, the Egyptian god of mariners. Canopus is a bright star of the first magnitude in the stern of the ship Argo, which we shall presently see was no other than the ark of Noah, turned into a constellation: and Cneph, or Canupha, (for that is the Coptic and Arabian primitive) by which the Egyptians meant the guardian genius, who with his expanded wings hovered over the waters, was therefore the proper pilot of that vessel. From Cneph the Greeks, altering the word with the usual freedom with which they treated all other Oriental primitives, formed Neptune, a deity whom they acknowledged to be the peculiar guardian and founder of their nation.

Αρης, Mars, the next planet, was probably derived from the Hebrew ARETZ or ARITZ, fortis, violentus, formidabilis, an epithet remarkably consonant to the character of Mars the god of war; or to whatsoever hero of antiquity elevated to planetary honours might have been canonized under that fictitious designation. This planet, therefore, being called by the ancients Aretz, and with the prefix of another Oriental dialect, Ma'Aretz, a prefix also in India,

applied very universally in the sense of great, as MARAJAH, the great rajah, and MAHDEO, the great god; the Greek word Αρης, and the Latin Mars, or Mavors, was thence immediately formed. From these circumstances, the sanguinary and terrific aspect of the planet, and the inauspiciousness of the day distinguished by his name, I should be inclined to think that the warlike and tyrannical Nimrod was the tyrant spirit that was supposed to reside and rule in Mars. Tuesday, or Martis dies, is consequently a day of *evil omen* in India.

That the EARTH is a planet, that it revolves, and that its form, like the others, is spherical, are circumstances with which the earliest astronomers doubtless were not acquainted. When, however, the Phœnicians began to take long voyages, they could scarcely avoid discovering the convexity of its figure; and when they more assiduously cultivated astronomy, and observed the circular shadow, cast in eclipses by the interposing body of the earth on the orb of the moon, they were confirmed in that idea. By the rising and setting of the stars and other celestial phænomena, not otherwise to be satisfactorily accounted for, they began in time to discover that it revolved, because as geometry applied to astronomy, taught them the extent of the universe, and the magnitude of the celestial bodies, compared with the earth, it appeared to them more reasonable that the object inferior in magnitude should revolve, and not that the amazing fabric of the world, with all the glorious appendages which they beheld in it, should roll round this comparatively diminutive spot of the creation. Thus argued Pythagoras, and thus *before him*, and probably *to him* on his visit to their caverns, argued the Brahmins of India, in whose astronomical mythology the earth is expressly called by the Sanscreet name aplied to the other planets, a BOBUN, or sphere. The primitive name of our own planet should therefore not be unnoticed, and the result of my inquiry is as follows. From the Hebrew ERETZ, tellus, came

the Greek Ερα, terra, and our English word EARTH ; in Anglo-saxon, it is *Eard*, in Dutch, *Aerd*, and in Teutonic, *Erde:* what glaring proof is here exhibited, if Hebrew be not the original language of the earth, how deeply it is blended with every dialect of it.

We come now to consider the etymology of the Greek Αφροδιτη, or Venus, the most beautiful and conspicuous of all the planetary train. In this instance the assertion of Diodorus, with which our disquisition was commenced, will be found to be remarkably proved. This appellation was immediately derived to the Greeks from PHERIDTA, or APHRIDTA, a Chaldaic word signifying *eximia*, *formosa;* a name, observes Mr. Costard, very properly given to this planet on account of its remarkable lustre; a lustre so great that it is frequently seen in the day time, in spite of the brighter and more powerful beam of the sun. In the same manner the word Venus, by which this planet was known among the Romans, may be deduced, he thinks, from the Chaldaic Han, or Hen, *gratia*, *decor*, to the initial letter of which the ancients affixing the Æolic digamma, and to the final, the termination *us*, the name Venus was formed, by which this planet was known among the Romans, and by the Romans transmitted to us. The personages of principal note in antiquity seem to have had both a star and a planet dedicated to them. By the ancient people, from whom the Romans derived their descent, a people who seem to have formed a very different system of mythology from the Indians, Noah, the true Saturnian sage, was at once exalted to the sun, and to the planet of that name. Jupiter, the renowned Amun, or Hammon of the Egyptians, was not less consecrated in the sign of the zodiac, denoted by his symbol, the ram, than in the planet of his name. The Chaldean Nimrod, or Belus, whom I cannot but consider as the genius presiding in the planet Mars, was familiar to the ancient world by the name of Bal, and Baal, the general appellative of the sun not only throughout the East, but in our western hemisphere; for even in the

Hebrides, at this day, Bealtine signifies the fire of the solar orb, and vestiges of the solar worship on that grand day of the equinoctial festival, when the Druids lighted their consecrated fires to Baal, still remain in that country, as will be shown more fully in my account of the Druid colonies hereafter.* In the same manner Hercules, the Phœnician Belus, for each nation deified this celebrated personage, whose very name signifies the strength or glory of the sun, and whose victory over the Nemæan lion, and the Cretan bull, solely refer to the strength of the sun in the signs Leo and Taurus, was not less elevated to celestial distinction in the central luminary of our system, than in an illustrious constellation of the northern hemisphere. Consistently, therefore, with the whole tenour of their conduct, Semiramis, the Dea Syria of Babylon, shone forth upon the abject race who deified her with equal lustre in the Pleiades and the morning star. This planet beams a beneficent light upon the Hindoos, for dies Veneris, or Friday, is a day of good omen with the priests of Brahma.

We come, in the last place, to consider Mercury, the planet nearest the sun, and who performing his revolution swiftest, was in the ancient mythology decked with wings both on his head and feet, and made the fleet messenger of the gods. Astronomers have likewise contributed to decorate this favourite, but elusive object of their indefatigable inquiry with a caduceus, which is the equinoctial line, adorned in such a manner with serpents twined around it, as to represent the oblique path of the sun, in the full blaze of whose orb he delights to bask, and from which he never removes to the distance of above a few degrees. The Greeks called this planet ϛτιλϐων, fulgidus, coruscans, of which Mr. Costard thinks the Chaldaic root to be *eshta labah*, literally a flaming fire, which being in

* Consult, for the present, Toland's History of the Druids, vol. I. p. 67, and Borlase, p. 135, who has given by much the most classical and satisfactory account of Druid rites yet published.

common language pronounced *estlib*, the Greeks formed their σιλβων from it. The word Mercury according to Bochart, is of the same import with Canaan, and both signify *mercator*, which plainly point out to us the great Phœnician navigator; and if a navigator, when men sailed only by the stars, an astronomer.* For his Phœnician name of Taut, Theuth, and Thoth, we must consult a learned modern etymologist, the celebrated Count de Gebelin, who has been at some pains to investigate this word to its very source.

Taut, he affirms, is formed of the Coptic word THO or THAU, signifying a mark or sign, whence the Greeks obtained their letter Tau. Hence he is led to comment upon that verse of Ezekiel ix. 4, *I will set a mark upon their forehead.* In the original the word is, I will set a TAU upon their forehead. Then follows a very curious remark of a critical kind, that the Greeks adding to this word the particle Ma (which we have before proved to be a Sanscreet word, signifying *grand*, as in Marajah), formed the substantive THAU-MA, a sign or prodigy, the verb THAU-MA-ZEIN, to wonder and admire; and THAU-MA-TERGE, to work wonders; M. Gebelin refers for his derivation of the word to a manuscript dictionary of the Coptic language by M. La Croze.† He adds, that in France, during the early ages of Christianity, they used the expression in the baptismal ceremony, crucis thaumate notare. In confirmation of what M. Gebelin has advanced, I shall add, that the Latin vulgate does in fact read, *you shall mark their forehead with the letter Thau;* and it is therefore conjectured by Lowth on the passage, that the ancient reading in the Seventy was ταυ σημειον, the mark Tau, and not as it is at present, το σημειον, a mark. The learned Bishop Walton is of opinion, that the letter was made in the form of a cross,‡ and Ludolphus conjectures that the Coptic is only a copy of the old Samaritan

* See Bocharti Phaleg. p. 12.

† See Le Monde Primitif, Tom. I. p. 126.

‡ Consult Walton's Apparatus to his Polyglot Bible, Prolegom. 3. 29, et seq.

alphabet.* The form of the more ancient letter is indeed much disputed among antiquaries; some contending that it bore the figure of an X, or St. Andrew's cross, others that it resembled the T or great Tau of the Greeks. After an accurate inspection of the two original alphabets, which now lie before me in the page of Ludolph, cited in the note below, I can trace no character at all similar to the former; but both in the Tau of the Samaritan, and the Tavvi of the Æthiopic character, may be seen the evident prototype of the Greek T. They differ only in the upright stroke being elevated higher than it is in the Greek, exactly after the manner of the common cross on which malefactors suffered in the Roman empire, and which was sanctified by the hallowed body of Christ. Both of them, however, I can assert, were used and frequently occur among the Egyptian hieroglyphics, and variety of specimens may be seen in the plates of Montfaucon upon the Antiquities of Egypt. I shall presently have an opportunity of explaining more particularly the meaning of these respective symbols, in their physical system of theology, when I come to consider the chemical characters by which the planets are designated. The other Greek appellative of this personage was Hermes, which, according to the French etymologist, is derived from a Coptic root, and signifies *interpreter*.

The Indian name of the planet Mercury is Buddha, or as it is more generally written Boodh, and there can be little doubt of its being derived by a transposition or change not unusual in Oriental languages of the initial and terminating letters, from the Coptic Thoth or Theuth, who was possibly no other than the Phut or Phuth of Scripture, that third son of Ham, whose name seems to be preserved with such little alteration in the Chinese Fo, the acknowledged Buddha of the Brahmins. That allegorizing tribe, perpetually blending astronomy with history, have assigned to their Buddha an

* See Ludolphi Hist. Æthiop. lib. 4. cap. 1. edit. fol. 1681.

origin not less celestial than their other deities, or personifications of deity. Their relation of his sidereal descent deserves a considerable degree of attention, as he is a most important personage in the Indian drama; and indeed it would also be unpardonable to omit mentioning so ingenious an allegory of the Hindoo mythologist as that in which it is contained; an allegory which doubtless veils an astronomical and historical truth. Those fablers assert that Soma, or THE MOON, more generally denominated Chandra, had for HIS favourite mistress the nymph ROHINI, the sidereal genius that presides in the fourth lunar mansion, or the bull. By Rohini, I presume, they mean to designate the bright star called Aldebaran, or the bull's eye. The offspring of their affection was the famous Buddha; the same identical person with the Phœnician Taut, and the Egyptian Hermes: many important particulars farther relative to Buddha will be detailed hereafter. It will be sufficient for the present to relate, that he is represented as an incarnation of the deity, who appeared on earth *towards the commencement of the Cali Yug*, and what is very remarkable, that he married ILA, *whose father was preserved in a miraculous ark from an universal deluge.** This is Sir William Jones's account of the birth of Buddha, extracted by him from ancient Sanscreet authorities; and therefore to be depended on. Among the Brahmin astronomers I have had more than one occasion to observe, that by the marriage of two celestial bodies, they mean their accidental conjunction; and therefore, all that is meant by the allegory may possibly only amount to this, that he was born when the Moon and Mercury were in conjunction in the sign Taurus. This planet is numbered among the beneficent ones, and therefore dies Mercurii, our Wednesday, or Woden's day, shines with a good aspect in India. The symbolical characters, by which the planets are distinguished, demand our next consideration.

* Asiatic Researches, vol. II. p. 376.

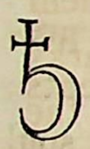
It has not hitherto been satisfactorily accounted for, that we designate the planets in astronomical, and metals in chemical science, by the same characters, otherwise than that the astronomy of the Greeks came to us through the Arabians, the supposed inventors of chemistry; but to those who are chemists, it must be evident that those ancient Chaldeans who were acquainted with the nature and wonderful properties of FIRE, and who on that account adored it as a divinity, could not possibly be strangers to so exalted and noble a science. In fact, astronomy and chemistry were sister sciences in those early days, and this mode of designating the different planets and metals by congenial characters, descended to the Arabians from an older school, even from that of Zoroaster, and the Persian Mithra; in the sacred cavern temples of which deity we have observed from Celsus, the planets were first designated according to the various metals. In fact, they thought that those planets were composed of or at least principally abounded in, that species of metal by which they were so distinguished, or else in a high degree possessed qualities resembling those metals. Thus the sun, being the brightest of the orbs, was represented by a circle, the symbol of perfection: and gold being the most pure of metals, was symbolized by the same figure. The moon being the next orb in apparent purity and brightness, was shadowed out by silver, the second in rank of the precious metals; and the crescent became the discriminating character of both. Mars was thought to abound in copper; because his aspect is of a dusky red colour. Mercury is the symbolic character of quicksilver, not only on account of the brilliant whiteness which his lucid orb displays, but because his progress through the heavens was made with rapidity, like the motions of that active and penetrating metal. Saturn, on the other hand, whose slow motion among the fixed stars is scarcely perceptible, is properly enough symbolized by that lead of which his astronomical designation is the chemical character; there is

likewise in lead a bluish cast, which is in a very marked manner the colour of that distant orb. Though this difference in the colour of the planets, may not be so strikingly perceptible to astronomers in the foggy atmosphere of the British islands; yet in the cloudless sky and pure air of Chaldea, it doubtless was distinctly discernible. The elder Cassini, who observed the planet Venus in Italy, was enabled, in the clear atmosphere of that country, to make discoveries which his son afterwards in vain attempted to verify in the grosser one of Paris; indeed the Chaldeans are said to have made the same observations in regard to the various colours of the fixed stars, which require still nicer inspection; and from those colours, in their romantic schemes of judicial astrology, they assigned certain series of them to one planet, and certain other series of them to another. Those of a blue tinge they made kindred with the house of Saturn; those of a reddish tinge, with Mars; those of a yellowish cast, they said belonged to the house of Venus; those of brilliant whiteness to that of Jupiter. The dazzling Mercury had his allies in the vast expanse; and the same influences which emaned from the silver and golden rays of the lunar and solar orbs, were supposed to be equally diffused from those orbs which were of congenial hue. The reader, by casting an attentive eye over the planetary characters, will find them all to be composed out of those two which in a more peculiar manner designate the sun and moon, with only the addition of the Egyptian crux, or cross, which was their symbolical representation for MATTER in general, and was typical of the four elements. Of this venerated symbol, when considering the theology of Hindostan, whose principal temples, I mean those of Benares and Mattra, are absolutely erected in the form of vast crosses, I have already given an account, which, as I could only repeat the same information, I beg leave to insert in the same words. "Let not," I there observed, "the piety of the devout Christian be offended at the preceding assertion, that the CROSS was

one of the most usual symbols among the hieroglyphics of Egypt and India. Equally honoured in the Gentile and the Christian world, this emblem, among the former, of universal nature, of that world, towards whose four quarters its diverging radii pointed, decorated the hands of most of the sculptured images in Egypt; and in India, stamped its form upon the most majestic of the shrines of their deities. It repeatedly occurs on the Pamphylian and other obelisks; and the antiquaries, Kircher and Montfaucon, have both honoured it with particular notice. The CRUX ANSATA of Hermes, is represented by the former as a most sublime hieroglyphic, as a most mysterious and powerful amulet, endowed with an astonishing virtue, and as exhibiting one of the most complete mathematical figures; "habentem longitudinem atque latitudinem, et quatuor angulos rectos;" possessing at once both length and breadth, and having four right angles; at once allusive to the four cardinal points of the world, and typical of the four elements. In pages 277, 279, 280, and 281, of the third volume of the Œdipus Ægyptiacus, are symbolical representations, copied from the Barberini obelisk, of the four elements; FIRE, designated by a figure of Osiris, as the ANIMA MUNDI, or soul of the world, with a hawk's head; the AIR, by a figure bearing on his head a cap adorned with an orb, and WINGS, the usual emblem of the AIR on Egyptian monuments; the EARTH, by that of ISIS, the great mother of all things, with a calathus on her head, containing ears of grain, a bunch of flowers, and the horns of a cow, all emblems, as well as the swelling bosom which the goddess displays, of fertility and plenty; and lastly, WATER, typified by a statue bearing the head and face of the IBIS, a bird sacred to the Nile, and with the horns *lunæ sextilis*, of the MOON, which in the month of August was supposed to assist in causing the inundations of that river. All these figures, thus emblematical of the ELEMENTS, which are highly worthy a minute examination, bear the hallowed cross with its cir-

cular handle, by which they were collectively and strikingly represented."*

It appears to be incontestibly evident, that as by a *circle* the ancient Egyptians universally pourtrayed the solar disk, so by this addition of the *circle* invariably joined to the *cross*, they meant to describe the invigorating power of *the sun acting upon dead matter.* In the very same manner, in their characteristic designations of the several planets, the cross constantly affixed, though in different directions, to the circular designation of the sun, and the semicircular one of the moon, by one or other of which marks they are all denoted, seems intended to point out the solar or lunar influence of which the planet partook, and having partaken, diffused, together with its own, upon the various elements of fire, air, earth, and water. To this mode of thinking and acting they were, doubtless, farther incited by their astrological, in that early period so deeply blended with their astronomical speculations.



The hieroglyphic symbol of Saturn, therefore is evidently formed of the lunar character, with the addition of the Hermetic cross placed upon the superior point of the semicircle.



Jupiter is designated by the lunar character, with the same cross placed horizontally upon the inferior part of the semicircle.



Mars is distinguished by the solar character, and the same mysterious symbol placed in a different manner.



Venus is likewise denoted by the astronomical character of the sun, whose rising and setting she attends, as the morning and evening star, with the elementary symbol depending from the circle.

* See Indian Antiquities, vol. II. p. 388.

Mercury unites in the character of his orb, both the solar ☿ and lunar designation, together with the mystic symbol of the elements. It is very remarkable, that this artificial combination of characters evidently presents to our view the famous caduceus, by which that deity was so universally decorated in the ancient world.

By time and caprice the above characters have nearly all suffered material alteration; but such was their original designation, and such the true meaning of them.

It was not, however, only the supposed influences imparted and diffused by the two superior planets to the others, that led them thus to designate them, for we have seen that they classed the constellations according to their colours, and possibly the lucid splendour of Saturn and Jupiter, might be the occasion of their assigning to them the lunar character; while the ruddy aspect of Mars, and the transcendant refulgence of Venus, induced them to designate them with the solar denotation. Mercury participating of both, marks at once his frequent conjunction with those primary orbs, and the brilliant lustre of his rapidly revolving sphere.

It is an ingenious, rather than a just observation of Scaliger on Manilius, that the character of Saturn represents the scythe of χρονος, Time, that mows down all things. I conceive the characters to be of Egyptian origin, and in forming our opinion concerning them, we must regulate ourselves by the Egyptian mythology, and not by that of Greece and Rome in periods far more recent. Although the character, as it has descended to us from the Greek and Arabian astronomers, may bear some resemblance to the Saturnian scythe, it is most probable that the original designation has been altered, to agree with the sentiments of a more recent mythology. For the inventor of the Egyptian astronomy was Thoth, or Hermes, one of whose symbols was the mystic figure above described; and the reader, who may choose to consult the large and genuine collection

of the most ancient hieroglyphics of Egypt, in the gallery of the British Museum, will find nearly every sculpture adorned with it, and almost every statue bearing it in his hand. Mr. Bruce, in his Travels into Abyssinia, found the same symbol at this day universally pourtrayed amidst the ruins of Axum. He rejects, indeed, I conceive too fastidiously and precipitately, the hieroglyphic explanation of a symbol, the form of which we have seen impressed on the sacred edifices of India, and insists upon its being only the initial letter of Thoth, the name of an Egyptian almanac; but the arguments adduced remain rather confirmed, than shaken by his assertion; for, if there had never existed a Thoth, the inventor of the astronomy of Egypt, there would never, perhaps, have been fabricated, an astronomical calendar bearing that name.* How commonly, indeed, in their physical investigations, they used this expressive symbol, is evident from its being affixed to nearly all the ancient chemical characters, which I cannot therefore but consider as of Egyptian origin, notwithstanding they are so universally referred to the Arabians, who probably borrowed them from the former people. Thus in all tables of chemical marks, FIRE is designated by an equilateral triangle, having its apex uppermost, which was the immediate Egyptian symbol of this element, for flame ascends in that form, and terminates in such a point △. WATER again, the opposite element, is denoted by a triangle, with the apex pointing downward, shewing the way in which water principally exerts its strength ▽. The characters of the other elements, AIR and EARTH, are only modifications of the pyramidal character, the former being thus designated 🜁; the latter thus 🜃. SULPHUR usurps the erect pyramid, with the crux added to the base, 🜍. PHOSPHORUS has the same pyramid, with the cross affixed at

* See Bruce's Travels, vol. I. p. 417; and consult the two engraved plates of Æthiopian hieroglyphics annexed to his definition of the word TOT.

the top △. The designation of PHLOGISTON has this denotation somewhat varied △. TALK is designated by the character of a St. Andrew's cross, or the great Roman X, which is a very ancient Egyptian hieroglyphic; TARTAR by the quadrangle with the cross, □. In the chemical character of SUBLIMATE, who does not perceive the Libra, or zodiacal balance, so universally sculptured on the walls of Egyptian temples, in its proper form ♎; and in that of PRECIPITATE, the same character with the *ansa* pointed downwards? ⌣. To close this digressive, but curious subject, the accurate decipherer of the chemical table will find nearly the whole of the remaining characters entirely composed out of one or other of those above described; but principally of the *solar circle* and the *igneous pyramid*, variously modified, and differently arranged.

CHAPTER VIII.

The respective Hypotheses of M. Bailli, and M. Du Puis more particularly considered—The Possibility stated of there being in Chaldea, Persia, and India, some Remains of ante-diluvian Astronomy preserved by Noah in the Ark among the precious Fragments of the Sciences of the Old World—Nothing irrational or impious in the Adoption of such an Hypothesis, since by it the very early and astonishing Proficiency in Arts and Sciences of the ancient Indians may be accounted for, without granting the enormous Claims to Antiquity set up by those Brahmins and their Defenders.

M. du Puis, in a very learned dissertation on the Antiquity of the Signs of the Zodiac, insists that the Egyptians were the first practical astronomers; M. Bailli, we have seen, is for assigning that honour to a primitive race of Scythians; a race whom all ancient historical records denominate an unlettered and barbarous progeny. For my own part, I must still contend for the palm in favour of the Chaldeans, Persians, and Indians, since through these countries extended the immediate line of the earliest migration from Ararat; and in spite of all the arguments of Bailli, and the sceptical raillery of his friend Voltaire, I am one of those unfortunate persons so frequently branded by the latter with the name of bigots and enthusiasts, who are so foolish as to believe that all the nations of the earth are descended from the small family that landed out of a certain ark on that mountain, somewhere about the 2000th year of the world. From respect to the opinion of the former writer, and many eminent chronologers, I am ready to allow that Egypt might be completely colonized about 150 years after the flood. The

tumultuous agitation naturally incident to infant settlers, and in such a country, annually overflowed as Egypt was, could be by no means favourable to that science which, M. Bailli so justly observes, is the child of leisure, contemplation, and rural tranquillity. Nearly double that period, therefore, must have elapsed, before astronomy, with all the necessary appendages of observatories, instruments, and inferences from climate, could have been established on any solid basis, while in the mean time, in Chaldea, Persia, and India, it was advancing rapidly to the utmost maturity attainable in those remote ages.

I shall briefly state one or two strong objections to the positions of each of these gentlemen, relative to the formation of the zodiac in either of those countries. To M. Bailli's assertions I shall answer, that many of the symbolical objects and animals by which that circle is designated, were not known in Scythia; nor are consistent with the climate and manners of the people. The Virgo, or sun-burnt maid of the summer field, for instance, is not very applicable to the high northern latitude of a country tenanted from the remotest æras by wandering tribes of Tartars, who subsist their flocks by pasturage on immense uncultivated plains, and are themselves principally cherished by the nutritious milk of mares and cows. With such a cold elevated country the sun in Leo, or that orb darting forth beams ardent and fierce as the lion in his fury, is equally incompatible; and the animal itself is a stranger in the Scythian regions. An inland country is not, in general, famous for fishermen, a race of men who probably designated the marine animals of the sphere. In short, if the Scythians ever were the fabricators of a zodiac, it must have been widely different from that which has descended down to us from Chaldea, through the medium of the Arabians, and from Egypt through the channel of Greece. But of such a sphere no written memorials, nor actual fragments, have reached posterity.

With respect to the hypothesis of M. Du Puis, though more plausible, it can never be supported against the united voice of reason and tradition. In a former page it has been observed, and the circumstances that prove the observation have been adduced, that the order of the seasons in Egypt is not conformable to the order of the signs of the zodiac. This is, in my humble opinion, an unanswerable argument against their being the first, or sole fabricators of that zodiac; though the circumstance of many of the zodiacal asterisms being Egyptian hieroglyphics, and sculptured on the walls of their most ancient temples, as may be seen in those engraved in the Indian Antiquities, may be likewise brought in proof, that they *had their share* in the formation of them. Thus Libra, the Crab, Gemini, Leo, and above all Scorpio, their dreaded Typhon, form a prominent feature among those hieroglyphic sculptures. To these may be added Aries, or the ram, the peculiar symbol of their great legislator, Hammon; Sagittarius, the archer, designated on their sphere only by an arrow, and therefore, probably, allusive to the ray of Osiris, their solar deity; and Capricorn, which, as engraved on the same sphere, has every appearance of being an Egyptian hieroglyphic. The rest I conceive to have been of foreign fabrication, because allusive to a different mythology, a different climate, and national habits totally adverse. It has been already proved, that Aquarius, a brumal sign, by which are meant the chilling rains of winter, could not possibly have its origin among a people with whom the winter is their finest season, and in a country where little or no rain falls. It has been also insisted upon in the Preface to the Indian Antiquities, and urged with the confidence which truth inspired, that Virgo could not be of their invention. For it is there stated, that the celestial Virgo, which is on the sphere represented by a young female with ears of ripened corn in her hand, evidently points to the season of the harvest; that such, in fact, it is in most countries when the sun enters into that sign, that is, in September;

but in Egypt, where the fertility of the country depends upon the annual overflowings of the Nile, and where consequently the concerns of agriculture are both managed on different principles, and directed by peculiar local regulations, the period of the harvest is in March; or rather, as Pliny has recorded it, *paulo ante Calendas Aprilis*. To these I shall now add another argument, at which the reader will probably at first be startled, because it tends immediately to prove, that they were not even the inventors of the sign Taurus, of that sign which their peculiar worship of the bull Apis and Mnevis seems to demonstrate originated with the priests of Osiris.

The position of the stars in Taurus could scarcely have intimated the form of the bull, or rather the fore-part of the bull, for that is all the portion of the animal that forms the sign, to any person but a husbandman, who was determined to exalt an animal so useful in agriculture to the dignity of a celestial asterism. But the husbandman of Egypt was not anciently accustomed, if Herodotus and Pliny rightly informs us, to make use of the bull in agriculture. The seed, after the inundation had retired, was committed to the ground without the plough going over it, which probably would with the steers have been buried in the accumulated, but rich bed of mud left by the river, and was trod in by the lighter feet of swine, turned adrift into the new-sown plain.* The Egyptians, therefore, not using the bull in agriculture, as the Chaldeans did, and having no motive to deify it, borrowed from them both the sign, and the worship paid to it. They worshipped, it is probable, the zodiacal bull, before they paid homage to the living one in the form of Apis, or Mnevis. There is a particular passage in holy writ which, I conceive, will indisputably prove the zodiacal bull, and not the bull of agriculture, to be venerated at the early period of the Exodus of the children of Israel, and that it was not the living Taurus, but

* Herod. lib. 2. p. 106. Edit. Stephens; and Pliny, lib. 18. p. 476. Edit. Aldus.

the sculptured bull, that formed the object of their adoration. When the Jews exalted in the desert the Apis of Egypt they compelled Aaron to make them *golden calves*: they had living bulls, doubtless, among them, but this was not the object at that time adored in the Egyptian temples. The object uniformly venerated in the temples of Egypt at that period was the zodiacal or sculptured bull, formed with many mystic rites and magical incantations, originating in their belief of the influences shed by the sun and planets; and this was the particular bull under whose protection and influence (that is, the happy influence which the constellation TAURUS was imagined to shed) that they hoped to pass safely through that unfrequented desert.

It might be presumptuous to assert the existence of an *antediluvian sphere*: yet it is not impossible that Adam and his immediate progeny, during the course of their extended lives, passed under an unclouded sky, and amidst a serene atmosphere, had not only observed with admiration and minute attention the host of heaven, but had diligently noted on recording tables their motions and vicissitudes, their oppositions and conjunctions. If this idea may be admitted, it is probable that these invaluable astronomical records, the accumulated wisdom of revolving centuries, so necessary both in the theory and practice of *husbandry*, a science of which it will be remembered that Noah was the first post-diluvian propagator, were preserved by that patriarch among the most sacred remains of the wisdom of the ancient world which the ark contained. This, after all, is conjecture, though not totally unsupported by reason and probability. Let us examine if the page of ancient history, sacred or profane, affords any concurrent evidence to elucidate a subject necessarily involved in such tenfold obscurity. Concerning the fact itself, of any superior proficiency of the antediluvians in astronomical science, sacred history is entirely silent; and there are but two or three passages in all profane history that

have any immediate reference to the subject. I shall exhibit them to the reader faithfully, and in order.

Josephus first merits our attention, because it is most probable that he founded his relation upon such traditions as were current among that people, whom we are taught to consider as the peculiar and favoured nation of him who is the great parent of all knowledge; of him who is even OMNISCIENCE ITSELF. The children of SETH, says this historian, were the inventors of that peculiar sort of wisdom which relates to the *heavenly bodies* and their order. That their inventions might not be lost before they were sufficiently known, upon Adam's prediction that the world was to be destroyed at one time by a deluge of water, and at another time by the violence of fire, they made two pillars, the one of *brick*, the other of *stone:* they inscribed their discoveries on them both, that in case the pillar of brick should be destroyed by the flood, the pillar of stone might remain, and exhibit those discoveries to mankind, and also inform them that there was another pillar of brick erected by them. Now this remains in the land of SERIAD to this day!* From the circumstance above mentioned, of Adam's *predicting* a deluge and conflagration, I presume, it arose that Moreri, cited by Bayle, advances a step farther in hypothesis, and asserts Adam to have been a great astrologer, using that word, however, in its primitive and better sense, that is to say, a rational account of certain physical effects likely to be produced from the existing or apprehended position of the heavenly bodies, in the same manner as eclipses are at present foretold by means of repeated and accurate celestial observations. Taking the words in this sense, and supposing Adam, from observation, or from revelation, to have obtained the requisite knowledge of the system of the universe, we may allow him to have foreseen and predicted those awful events; and I am strongly inclined to think that upon this passage in his favourite author, and

* Vide Josephi Antiq. Judaic. lib. 1. cap. 2.

this train of argument, Whiston founded his first conjecture relative to the operation of a comet in producing the general deluge.* Before I proceed to examine the probability of what Josephus has thus asserted concerning the pillars erected by the children of Seth, I shall transcribe at length the passage in Manetho, alluded to in a former page, which refers to similar pillars erected by the elder TAUT, as I find it in the Chronography of Syncellus; and another in Diodorus Siculus, which, though it differs in some particulars, is apparently descriptive of the same ante-diluvian monument. "Manetho," says Syncellus, "professed to extract his history of the Dynasties, from certain inscriptions made on columns erected in the land of SERIAD; which inscriptions were engraved in the sacred language and characters by THOTH, the first HERMES; and were, after the flood, translated out of the sacred sacerdotal language into the Greek tongue. They were written in books which were laid up in the inner recesses of the Egyptian temples by Agathodæmon, the son of the second Hermes, and Manetho dedicated them to Ptolemy Philadelphus, in a book entitled SOTHIS."† The severe and just reflection made by Stillingfleet on this absurd relation of Manetho has been already noticed; but I shall wave all farther remark on the passage till I have noticed one from an ancient author of acknowledged authenticity and penetration. According to Diodorus Siculus, there was in Panchaia, an island of the Red Sea, which he had been previously describing as a country inhabited by a luxurious priesthood, and the residence of the immortals when they reigned upon earth, "a large golden pillar, upon which were engraved by Hermes, in the sacred Egyptian letters, the actions of the deities Uranus, Jupiter, Diana, and Apollo.‡ These deities

* See Whiston's Theory of the Earth; in which he endeavours to prove, that a comet, cutting the plane of the ecliptic in its descent towards its perihelion, on the first day of the deluge, actually passed before the body of our earth. Book 2. p. 182, oct. edit. Lond. 1722.

† Syncelli Chronographia, p. 40.

‡ Diod. Sic. lib. 5. p. 321. Edit. Rhodomanni.

were doubtless sidereal; by the actions they performed must be meant the *influences* which they shed; and this column, if not an original itself, was at least an authentic copy of some original effort of an ante-diluvian to delineate the characters or describe the revolutions of the host of heaven.

Josephus says, that the stone pillar erected by the sons of SETH remained, in his day, in the land of SERIAD; but in what region of Asia or Africa Seriad was situated, that author has not informed us, nor have any of his commentators been able satisfactorily to decide the matter. Those who are inclined to think TAUT the author of those inscriptions have fixed it in Upper Egypt, near the Nile, and on the borders of Ethiopia; while those who contend for that distinction in favour of SETH's children, are of opinion, that by Seriad is meant Seirath, a district mentioned in Scripture,* near Gilgal, in the tribe of Ephraim, because in that neighbourhood were PESILIM, that is, quarries, or, as some translate the word, sculptures, supposed to be the ruinous remains of this famous ante-diluvian pillar. I must own I am far more inclined to give credit to the relation of a respectable historian like Josephus, concerning the astronomical inscriptions of the sons of SETH; a relation so particular, so express, and probably handed down traditionally to the Jews from their early ancestors, than to the presumptuous assertions of the fabulous Manetho, relative to the hieroglyphic characters, thus asserted to have been deposited in the recesses of the Egyptian temples. There remains incontestible evidence to prove that Abraham was a deep proficient in astronomy; and the mention which is made of particular constellations, and the zodiac in that most ancient poem, the book of Job, supposed to have been written by Moses himself, is a strong additional testimony of the early progress of the Hebrews in that science. The opinion, however, which I have thus ventured to offer on this contested subject is, I know, contrary

* Judges, iii. 26.

to the decision of Shuckford,* as well as of other respectable writers who have trod this remote path of history. They contend that Josephus, who was well acquainted with the history of Manetho, and sometimes even cites him to elucidate obscure parts of his own history, having read the above account of the Hermiacal pillars in the Thebais, and knowing at the same time that the Jews had a similar tradition concerning the pillars of Seth, imagined Manetho's account to have been originally founded on that tradition, and therefore applied the particulars of the relation given by the Egyptian historian to the traditional account current among the Jews. Dr. Jackson offers another conjecture upon these famous pillars. He observes, from Herodotus, that Sesostris in his victorious progress through the kingdoms of the earth, in every country where the inhabitants had fought valiantly, erected pillars descriptive of the fierceness of the engagement, and the difficulty he had in subduing them: these pillars were constantly inscribed with the victor's name, which in the Egyptian language is Sethos, though the Grecians call it Sethosis, and Sesostris. Since, therefore, Herodotus asserts he saw some of them in Palestine and Syria, and since Strabo affirms that others of them remained in his time thus inscribed in Ethiopia and Arabia, the author of the Chronological Antiquities, from these circumstances infers the high probability that the pillar which Josephus says was remaining in his time, was one of these which, having the name of SETHOS inscribed upon it, he imagined to have been erected by SETH, the son of Adam, before the flood.†

But, in fact, the question either concerning the land of Seriad itself, or the author of the hieroglyphic inscription, by no means merited the distinguished notice it has attracted from historians, and the zeal with which it has been argued by geographers. Whatever monuments, in brick, or stone, or even in any more durable

* Shuckford's Connection of Sacred and Profane History, vol. I. p. 47. Edit. oct. 1728.

† Chronolog. Antiq. vol. II. p. 338.

substance, the vanity, the ambition, or provident industry of man might have erected previous to that catastrophe, were probably buried deep in the sediment left by the subsiding waters, which, doubtless, for many fathoms incrusted anew the surface of the earth, or were overturned and annihilated by those rending earthquakes and bursting volcanos which, according to Mr. Whitehurst's novel and ingenious system, united their tremendous efforts to effect that grand event.* It was the immutable decree of Providence that not only the whole race of man, except those that were in the ark with Noah, but the earth itself—that earth which had become so basely *corrupt before God*, and which had been polluted by idolatrous sacrifices; that earth, the original luxuriance and abundant fertility of which had been applied to the iniquitous purpose of pampering vice and inflaming passion; that earth which had, in fact, under names equivalent to those of Rhea and Tellus, in succeeding ages, been itself adored as a deity, in the place of its creator—with all its towering palaces, its splendid temples to false divinities, and its triumphal columns, should be destroyed! The vengeance of heaven descended, in that instance, irresistible as the torrents of rain and fire that announced it, and spread unbounded as the guilt of the culprit. All the precious remains of ante-diluvian science were with Noah and his sons in the ark; *possibly* not inscribed on tablets of stone, or brass; but *certainly* engraved still deeper upon the hearts of the survivors. The result, therefore, of this inquiry is, that reason justifies, and tradition confirms, the supposition that the ante-diluvians, during the extended period of their lives, made very early and considerable advances in astronomy, and though no such monumental memorials of their skill, in recording pillars,

* See Mr. Whitehurst's Inquiry concerning the original State and Formation of the Earth, page 125, 4to. Lond. 1786; a book to which I am greatly indebted, and which I shall have occasion hereafter to cite very frequently. See also the excellent discourse of the Bishop of Llandaff on this subject, in his Sermons, p. 122. Edit. 8vo. Cambridge, 1788.

remained after the deluge, yet the principles of the science, with the observations and improvements that regarded the practice of it, might possibly be transmitted by Noah and his sons to their descendants, who settled in Chaldea, Egypt, Persia, and INDIA. The whole, however, of what has been observed on this subject being at best CONJECTURE, let us again descend to post-diluvian periods, and endeavour to ascertain in what region, and at what period after the deluge, astronomy first reared its head.

M. Bailli, one of the most powerful in argument, the most profound in eruditiou, and consequently the most formidable of all those French astronomers whose extravagant and dogmatical assertions I have endeavoured to invalidate, in another, and less romantic production, asserts that astronomy, which he eloquently calls the child of curiosity, tranquillity,* and rural solitude began to flourish in Egypt and Chaldea 2800 years before the Christian æra; in Persia 3209; in India 3101; and in China 2952: that is to say, upon an average calculation, about three thousand years before Christ. It is likewise his opinion, avowed with much confidence, and in very decisive language, that astronomy was cultivated with assiduity and success in ages far anterior to these remote periods, and that we are to consider these only as the æras of its restoration and revival among mankind. Computing the age of the world by the more extended limits which the chronology of the Septuagint allows to its duration, and taking into the account what has been said in the preceding page concerning the attention of the antediluvians to this science, we shall find in this account of M. Bailli no gross violation of probability. This is, however, the utmost that *can* be conceded; and many will be of opinion that even this concession is too great, in proportion to the kind of evidence which he has brought forward to establish his position, which, from the

* C'est la science du repos, de la solitude, et de la jouissance de soi-même, &c. &c. Histoire de l'Astronomie Ancienne, p. 2. 4to. seconde edit. A Paris, 1781.

remoteness of the æra alluded to, must necessarily be of the most doubtful nature; the evidence of ages immersed in fable, and obscured by mythology. M. Bailli very justly observes, that astronomy cannot be numbered among those arts and sciences which in a more peculiar manner belong to the sphere of imagination, and which by the wonderful energy of vigorous and splendid genius are often brought rapidly to perfection. It is, on the contrary, by very slow advances that a science founded upon the basis of continued observation, and profound mathematical researches, approaches to any degree of maturity. Many ages therefore must have elapsed before the motions of the sun, moon, and planets, could be ascertained with exactness; before proper instruments were invented to take the height of the pole, and elevation of the stars; and before their several positions in the heavens could be accurately noted on descriptive tables, or a celestial sphere.

The first nation of the ancient world whose astronomical researches attract the notice of M. Bailli in this publication, is that of the Egyptians. Ptolemy, in the celebrated Calendar that bears his name, is there said to have fixed the heliacal rising of Sirius (explained in a preceding note) at seven different dates, which are the fourth, the sixth, the twenty-second, the twenty-fifth, the twenty-seventh, the thirty-first, and the thirty second, day after the summer solstice; and the earliest of these dates, which fixes the emersion of Sirius to the fourth day after the summer solstice, according to our author, answers to about the year 2550 before Christ. After what has been already and repeatedly observed concerning the vain pretensions of a nation who boasted that they had ascertained the *precise moment* in which creation commenced, I am convinced that any farther remarks on the subject of the Egyptian astronomy are unnecessary, and would excite disgust rather than pleasure in the reader.

In regard to the Persians; we are informed by M. Bailli, that

in the books of that ancient nation, it is asserted that in very remote periods, there were four stars so placed in the heavens as to be indicative of the four cardinal points ;* and, he adds, that in reality the stars which we denominate the *Eye of the Bull*, and the *Heart of the Scorpion*, were exactly in the two equinoxes, while the *Heart of the Lion*, and the *Southern Fish*, were very near the two solstices. In answer to this assertion, though I am far from meaning to throw any unqualified reflections on the veracity of the Persian records, some of which, in the opinion of Sir William Jones, are equally ancient and authentic, I must observe, that we ought still to remember that the books alluded to, I mean, the astronomical legends of Oriental empires, are those which gave rise to the wildest fables in the whole range of ancient mythology.

Since M. Bailli keeps still within the sign of the Bull, in the first *degrees* of which constellation, I have myself intimated that the year might formerly open, because such a supposition does not subvert the received chronology of the most authentic writers, I am willing to admit his position, in the utmost extent he would wish; and I own that by my own representation I have strengthened rather than invalidated the arguments which he has hitherto adduced in favour of the antiquity of astronomy. To candid disquisitions in search of truth, and to the well-intended, laborious investigations of science, when not repugnant and not hostile to the dearest interests of mankind, no petulant opposition ought to be made. M. Bailli, however, in my opinion, has gone beyond the most extensive limits that can possibly be allowed him, when, upon the weak basis of the following passage in Josephus, he asserts that astronomy must have had its rise fifteen hundred years before even this remote period ; " The Almighty," says the latter author, " afforded the ante-diluvians a longer term of life, on account of their virtue, and the good use they made of it in astrono-

* Histoire de l'Astronomie Ancienne, p. 13.

mical and geometrical discoveries, which would not have afforded the time necessary for predicting the periods of the stars, unless they had lived six hundred years; for the annus magnus is completed in that interval."* By this cycle of six hundred years, which Bailli terms *lunisolar*, Josephus is supposed to have meant the period wherein the sun and moon return to the same situation in the heavens in which they were at the commencement of that cycle. Now M. Bailli insists, that before this lunisolar period could be found out, two revolutions at least of 600 years must have taken place; and, if we allow him all the latitude to which he lays claim, that is, for a sufficient period to have elapsed for the previous invention of the necessary instruments, &c. the sum of years will carry us far beyond the Mosaic æra of the creation, which can by no means be conceded. On the particular cycle in question, a remark of Cassini, cited by Dr. Long,† is highly deserving of notice; for he has observed, that this grand period, of which no intimation is found in the remaining monuments of any other nation, is the finest period that ever was invented, since it brings out the solar year more exactly than that of Hipparchus and Ptolemy, and the lunar month within about one second of what it is determined by modern astronomers. If, adds Cassini, the ante-diluvians had such a period of 600 years, they must have known the motions of the sun and moon more accurately than they were known some ages after the flood. Of the latter circumstance there can be no doubt, since the observations of persons who lived eight or nine hundred years, and made by the same vigilant eye, could not fail of being less interrupted, and less desultory, than those made by men whose lives were contracted within a very small portion of that period, and whose observations were transmitted down through that lengthened term by means of successive observers. In the course of such a

* Josephi Antiq. Judaic. lib. 1, cap. 3.

† Long's Astronomy, vol. 2. p, 653.

prolonged life, one man, according to Long, might have observed Saturn go through more than twenty of his revolutions, and knowledge thus gradually advancing, might rapidly arrive at excellence little short of perfection. This I humbly offer as an argument tending full as forcibly towards the explanation of that astonishing progress which the arts and sciences anciently made in India, as vague and unwarrantable assertions of the pretended antiquity of the human race; equally contrary to Scripture, experience, reason, and tradition. This supposition, however, of the great accuracy in astronomical speculations of the ante-diluvian race of men, which I adopt as the only satisfactory method of explaining various perplexing circumstances which will hereafter occur, relative to the great proficiency to which the arts and sciences arrived in ancient India, on no other possible system to be accounted for, gives rise to a fresh difficulty of a peculiar nature, which it becomes, by the way, necessary in some degree to remove. It must appear astonishing that, with all this accuracy, and during the extended term of their lives, so favourable to astronomical precision, those who had distinctly observed so many suns to rise and to set, and had watched so many successive revolutions of the moon, had not discovered the true length of the solar year, a point which their post-diluvian progeny first had the honour of ascertaining a few centuries after the flood. Since both the solar and lunar revolutions were thus accurately known, and probably noted upon tables; and since the general result of those calculations was the formation of the zodiac, and the division of it into 360 degrees, the difficulty, at first sight, appears absolutely inexplicable. The only method of at all solving the difficulty is, the very ingenious, but still disputable one, proposed by Whiston, that, in fact, the ante-diluvian year did not consist of more than 360 days; that the number of the lunar revolutions was exactly 30; and that the change in the year has been occasioned by some violent shock received by the earth at the deluge, whether

that deluge were occasioned by the passing of a comet near the orbit of our earth, or by whatsoever other means the Almighty might think proper to accomplish that memorable event; whence may be deduced the consequent vicissitude in the order of the seasons, and the alterations that have necessarily taken place through all the elements.

To pursue M. Bailli through the rest of his chimerical, but learned publication, would be a needless waste of my own and my reader's time. His aim throughout this whole book may be plainly perceived, which is to establish the doctrine of his *primitive Scythian race,* mentioned at the commencement of this chapter, a race to whom he assigns an antiquity far beyond the Mosaic creation, or indeed any other creation ever heard of. It is connected with the equally romantic assertion of M. Dupuis in the memoir above alluded to, that the signs of the zodiac are at least 16000 years old, because there are many probable arguments to shew that Libra was formerly the sign of the *vernal,* and Aries of the *autumnal* equinox; or, in other words, that since the origin of astronomy, the precession of the equinoxes has carried forward by seven signs, the primitive order of the zodiac. Without entering into the merits of calculations of this extravagant cast, which would hurry us still farther from the subject of our history, I shall conclude this chapter with observing, that a fruitful and ardent fancy may conceive any hypothesis, however absurd and preposterous; but while we admire the fervour of genius, there is no necessity that we should sacrifice on that shrine our better judgment, or renounce, for *probable arguments,* the genuine records of tradition and history. Every body at all conversant with astronomy knows WITH WHAT EASE, AND TO WHAT DISTANT PERIODS, IT IS IN THE POWER OF SKILFUL ASTRONOMERS TO CARRY UP THEIR RETROGRESSIVE CALCULATIONS; TO FORM SUPPOSITITIOUS ÆRAS OF UNFATHOMABLE ANTIQUITY, EXISTING ONLY IN IMAGINATION, AND TO STAMP UPON THOSE ÆRAS THE

COUNTERFEIT IMPRESSIONS OF TRUTH, AND THE SANCTION OF APPARENT AUTHENTICITY.

Astronomy, in fact, did not first rear its head in Egypt, or in Persia; but in the region earliest tenanted by the renovated race of man. It was necessary for the pursuits of husbandry that the Chaldean shepherds should diligently observe the orbs of heaven; their alternate rising and setting; their opposition and conjunction; their emersion and obscuration. In its original outlines simple and rude, by degrees it became a vast, a profound and complicated science. The principles and practice of astronomy thus commencing in Chaldea, were extended and amplified by the daring navigators of Phœnicia; and, in succeeding ages, by the philosophers of Persia, Egypt, and India, were carried to the utmost point of perfection attainable in those remote periods.

CHAPTER IX.

The gradual Progress of the ancient Chaldeans in Astronomy considered.—The LUNAR ZODIACS *of that Country, of Arabia, of India, and China, examined and compared.—The* SOLAR ZODIACS *of the Oriental World, particularly that of Egypt, investigated, and the particular Circumstances in which they vary pointed out.*

IN the survey which I am about to take of the Oriental zodiacs, and other parts of the Asiatic astronomy, some very remarkable circumstances occur, and merit more minute discussion than may possibly be pleasing to the reader; but we are now engaged in the defence of a great cause, which must not be sacrificed to punctilio; we are launched in a vast ocean, and it is impossible, at this advanced period of the business, to relax the vigorous oar, or confine the expanding sail. On this grand subject, however, I cannot but deeply lament my very slender acquaintance with those two primitive languages, which we shall hereafter see are so nearly allied to each other, the CHALDAIC or old SYRIAC, and the SANSCREET. If I should be thought deserving of what I shall consider as adequate encouragement for so laborious an undertaking, as the obtaining of a *critical* knowledge in those languages, I shall doubtless undertake the arduous task; at present I have too many abstruse subjects before me for investigation, to engage in that pursuit; and too much of life has been already wasted in the gay delusion of hope, and the severe anguish of disappointment, to allow me, upon uncertain grounds, to injure farther, by intense application to the study of dead languages, that health without which life itself becomes a burthen. After all, the distinguished writer who

enjoys the proud distinction of being the greatest linguist in the world, has nobly declared that languages are not to be considered as *science* itself, but only as the *medium* of obtaining, and imparting science. It shall be my business then, according to his advice, and as far as my moderate abilities, and my present limited opportunities extend, to collect the fruit of the TREE OF SCIENCE, without encumbering myself with the leaves and the branches. With Mr. Stanley upon the Chaldaic Philosophy, on the one hand, and Mr. Costard upon their Astronomy, on the other; with the assistance of the sacred volumes; and the occasional but cautious use of Mr. Bryant; and by making the Dissertations of Sir W. Jones, and those other writers on Indian Astronomy in the Asiatic Researches, commentaries on them all, I hope at length to produce somewhat that may prove of service to religion and literature. With these aids, I will not shrink from the investigation of facts however remote in date, or even buried in the gulf of time. I will advance firmly, but guardedly; and penetrate to the fountain head, even to the KENTAISSI itself of human knowledge.*

Not the least curious and instructive part of Mr. Bryant's Analysis is his dissertation, in the second volume, upon the origin of the sphere, the first formation of which he ascribes to the Egyptians. His subject, however, should have led him to place its primitive fabrication in a different country; for, though many of the hieroglyphic figures undoubtedly allude to the deities, the religious rites, and mythology of Egypt, yet I hope to prove, that a very great number must have been of anterior and Chaldaic invention. He appears to me to have formed his opinion, on this point, from an attentive survey of the objects delineated in that relic of ancient science, the original sphere of the Egyptians; preserved for posterity by the indefatigable researches, and in the page, of Kircher. That

* Kentaissi is the name of a mountain in Thibet, where late discoveries have fixed the source of the Ganges.

sphere, together with a delineation of the hieroglyphic figures that first distinguished their zodiac, many of which are entirely different from ours, may be found in his second volume of the Œdipus Ægyptiacus, and is highly deserving of the attentive examination of the antiquarian. Kircher, though stigmatized by Warburton, with the appellation of a visionary, was a careful collector, and an accurate delineator, of the hieroglyphic antiquities of Egypt; and it is by those hieroglyphics, rather than by his disquisitions upon them, though always entertaining, and often highly instructive, that we are to be guided in forming our opinions. Throughout these strictures, as well as in a future chapter on the remaining constellations, I shall have that sphere, with the solar and lunar zodiacs of India, Persia, and Arabia, that is, of Chaldea, constantly lying before me.

Leaving, therefore, the chimeras of more fanciful astronomers to their fate, and totally regardless, for the present, of any arguments, however probable, that might tend to establish the existence of an ante-diluvian sphere; let us trace in Chaldea, whither history and tradition conduct our steps, the first operations of the human mind in regard to astronomical inquiry. The advantages of a serene climate and a bright sky, which the Chaldeans enjoyed, have been before pointed out; and the early distinctions which they could not avoid making between the *wandering* and the *fixed* orbs. The phænomena that doubtless must have first struck them with wonder, were eclipses; but these they observed always took place when the sun and moon were in different parts of the heavens. They therefore concluded, from what they saw daily take place upon earth with respect to bodies that project a shade, that eclipses were occasioned by the moon's falling into the earth's shadow, and that shadow being circular, it was not long before they formed a just notion of the earth's figure, and conceived it to be globular or spherical also. With respect to eclipses of the sun,

a far more alarming phænomenon, as they had previously observed the occultation of the fixed stars and planets by the moon's intervening orb, they could scarcely avoid remarking, that those eclipses were caused by the interposition of the same body, especially when they observed them only to happen when the sun and moon were in the same part of the heavens. Other phænomena by degrees unfolded themselves to the Chaldaic observers; but the principal object of their attention seems to have been the moon and its periods: how incessantly and assiduously they observed her vicissitudes, is evident from the very curious circumstance previously stated, that they possessed a LUNAR ZODIAC, consisting of twenty-eight mansions or houses, in which her orb was supposed by them to reside during the twenty-eight nights of her revolution. It has been remarked that nothing of this kind appears in the Egyptian, and consequently the Grecian astronomy, and as the moon's progress through the heavens, from her proximity to the earth, and her rapid motion, was doubtless earliest observed, a fair deduction seems thence to follow, that they were a race of older astronomers. Of this their early proficiency in astronomical as well as other sciences, we have decided evidence in Abulfaragius. "Fuerunt autem, è Chaldæis sapientes, qui amplos progressus fecerunt in variis artium liberalium, scientiarumque mathematicarum et theologicarum, generibus; summe autem excelluerunt in observatione syderum veraque arcanorum cœli indagatione, et insigni naturæ stellarum earumque indiciorum peritia."*

But although this species of zodiacal division of the heavens was unknown in Egypt and Greece, the exploring eye of modern curiosity has traced it out in India, and China, a relic probably of Chaldaic science carried with them to their respective settlements when they first emigrated. The Arabians, in times comparatively recent, imitated this mode of dividing the heavens, and adopted it

* Vide Abulfaragii Hist. Dynastiarum, p. 46.

into their astronomical system. In the Arabic language they are denominated Manazil-al-Kamar, literally the mansions of the moon; and in India, Nac Shattra, as literally signifying the same thing. The Nac Shattra of India are in number twenty-seven; the mansions of the moon in the Chaldaic astronomy, according to Dr. Long, are twenty-eight, and this circumstance I have, in the preface to the Indian Antiquities, brought as an argument to prove the prior antiquity of the lunar zodiac ascribed to the Indians; for I naturally concluded, that as the number of the moon's mansions are less accurately ascertained in the Indian system of astronomy, it was in all probability first formed in that country, during the infancy of astronomy. On a more minute attention, however, to those authors who have treated of the astronomy of the Babylonians, I find that the Chaldean astronomers did not actually assign to the revolving orb of the moon twenty-eight mansions; but if Geminus, in particular, may be credited, only twenty-seven: for that writer observes, as cited by Petavius, η δε αποκαταςασις της σεληνης ημερων κζ. και οκτω και δεκατȣ ως εγγιςα; *the restitution of the moon is performed in twenty-seven days, and the one eighteenth part of a day*: that is, $27^{d}\ 1^{h}\ 20'$.* I give the passage in the original, because this coincidence in sentiment between the Indian and Chaldean astronomers, is a circumstance singularly remarkable, and leads to important consequences in this discussion. The old Chinese astronomers, educated in the same primitive school, seem to have retained a vestige of this lunar division of the sphere; and have partitioned out the heavens into twenty-eight constellations, to which they have assigned names totally different from those of the Indian and Arabian lunar zodiacs; names strictly appropriate to their own national prejudices, habits of thinking, the distinctions prevailing among them, and other local circumstances. The appellations by which they designated the twelve signs of their

* Geminus apud Petavii Uranologion, p. 61.

solar zodiac, are still more remarkable, and shall be noticed hereafter.

We have demonstrable proof how early the Chaldeans began to cultivate astronomy, in the circumstance recorded by Porphyry from Aristotle, that when Alexander took Babylon, Calisthenes, on inquiry of the Chaldean priests of Belus, found that they had a series of astronomical observations,* extending back from a period of 1903 years, written or rather engraved on tiles, or bricks; probably the oldest, as it certainly was the most durable, way of writing in those times. This account is likely to be a very accurate one, for, as Long has well observed on the occasion, it carries us up very near to the period of the general dispersion of mankind.† If the reader should be inclined to inquire how any accurate observations could be made without glasses, and of what nature they were; my answer is, that they were, what they are here said to be, *observations only;* such observations of the celestial phænomena as under a bright and serene sky, the eye unassisted by telescopes was able to make, and these were afterwards noted down in the national registers provided for the purpose. They were probably made after the same manner in which the Chinese astronomers of the ancient academy, notwithstanding they have now the use of European instruments in the new grand observatory of Pekin, continue to make them. "Five mathematicians," says Le Compte, spend every night in the tower, vigilantly observing what passes over head; one directs his eye towards the zenith; a second towards the east; a third towards the west quarters of the heaven; the south falls under the notice of a fourth; and the north of a fifth astronomer; so that nothing of what happens either in the meridian, or in the four corners of the world, can escape their diligent observation. They take notice of the winds, the rain, the air; of unusual phæno-

* Porphyrius apud Simplic. Com. 46. in lib. 2. Aristot. de Cœlo. p. 123.

† Long's Astronomy, vol. II. p. 654.

mena, such as eclipses, the conjunction or opposition of planets, fiery meteors, and of whatever, during the night, is worthy of remark. Of all this they keep a strict account, which they carry every morning to the president of the mathematical department, in order to be registered in his office."* Of how great antiquity in China this institution is, may be deduced from a story related by Du Halde, from their celebrated book Xu-king, which mentions the exemplary punishment of the *two presidents* of the astronomical department, Hi and Ho, for not having accurately minuted down the phænomena of a great solar eclipse which took place in the reign of the emperor Chong-kang, who flourished, *according to their records,* above two thousand years before Christ. This eclipse is said in the Xu-king to have happened at eight o'clock in the morning, on the first day of the new moon at the autumnal equinox, when the sun was in the constellation Fang, synonymous with Scorpio; and these two astronomers being plunged in wine and debauchery, for their neglect were put to death.† Father Gaubil, by retrogressive calculation, found out that such an eclipse had actually happened on the eleventh day of October, in the sign, and at the hour stated in the Chinese annals; and if his calculation be accurate, it is a very singular proof of the veracity of those annals. The reader must form his own judgment on the whole relation; for myself, I am not inclined violently to dispute any positions on this head that do not tend to subvert the Mosaic chronology, and I am decidedly for allowing the Eastern historian a privilege of which I am determined to avail myself, the utmost latitude of the Septuagint chronology. It is not for a century or two, more or less, that we wage the contest with infidelity: but we cannot allow of thousands and millions being thrown into the scale. We are ready to grant the sceptic the most extended limits he can reasonably

* Le Compte's Memoirs of China, p. 70.

† See Du Halde's General Hist. of China, vol. III. p. 80, 81.

demand, in respect to the *time* of our planet's duration ; but we can by no means admit the fanciful and impious hypothesis, that it has revolved either through myriads of ages, or from eternity.

However remote in situation the country of China may be from Chaldea, the ancient inhabitants of those kingdoms will be proved in the pages of this history to be very nearly connected. The above allusion, therefore, to the latter, must not be considered as a digression from the subject. Educated in the same grand school of science, and deriving infinite advantages from living so near the time of the great patriarch, the fountain of post-diluvian knowledge, they acquired information from the same source ; and, to obtain it, probably used the same means. In these nocturnal observations, while they marked the gradual progress of the lunar orb through the blue expanse, they could not fail to note down the position of the several stars nearest which, during her short revolution, the moon every night took up her abode. The situation of Babylon being in the centre of an immense plain, that of Shinar, open on every quarter, and consequently affording them an unbounded prospect of the heavens, they had a wider field for contemplation than any other nation, except the Egyptians ; who living still nearer to the equator, took into their comprehensive survey, the greatest part of the starry host. The most conspicuous of the stars which, in this extensive range, the exploring eye of the Chaldean astronomer thus noted, were formed into a catalogue, and denominated the lunar zodiac, or path of that luminary among the constellations. This was, doubtless, invented prior to the solar zodiac, because the first year of mortals was the period of the lunar revolution; or rather, according to what we have reported from the astronomical books of India, the first year was a fortnight, being regulated by the bright and dark portions of the moon's orb ; a circumstance which, we have observed, breaks down to a period comparatively small, the great mass of their exaggerated chronology. But enough

on this subject has already been said, and it only remains that we give the names of the lunar mansions in the Arabian astronomy, which Mr. Costard is of opinion they derived immediately from the Chaldeans; since the Greeks, from whom the Arabians borrowed the other parts of their astronomy, seem to have been totally ignorant of this most ancient Oriental mode of partitioning out the visible heavens. They are in number twenty-eight, and are enumerated by Dr. Hyde, in his edition of the Fixed Stars of Ulug Beg, in the following order.

NAMES, AND SIGNIFICATION, OF THE ARABIAN MANAZIL-AL-KAMAR, OR MANSIONS OF THE MOON.

1. Al-sheratan; they are the two bright stars in the head of Aries.

2. Al-botein; from *betn*, venter; they are small stars in the belly of the Ram.

3. Al-thuraiya; from *therwa*, multus, copiosus, abundans; they are the Pleiades.

4. Al-debaran; properly the Hyades, but generally applied to the bright star in the head of Taurus, called in Arabic, Ain-al-thaur, or the Bull's eye.

5. Al-hekah; the three stars in the head of Orion.

6. Al-henah; two stars between the feet of Gemini.

7. Al-dira; two bright stars in the heads of the two Gemini.

8. Al-nethra; the Lion's mouth.

9. Al-terpha; the Lion's eyes.

10. Al-giebha; the Lion's forehead, or, according to Alfragani, four bright stars in Leo, one of which is Cor-Leonis.

11. Al-zubra; two bright stars following the Lion's heart.

12. AL-SERPHA ; the Lion's tail.

13. AL-AUWA ; the five stars under Virgo.

14. SINAK-AL-AZAL ; the spike of Virgo.

15. AL-GAPHR ; three stars in the feet of Virgo.

16. AL-ZUBANA ; the Balance.

17. AL-ICLIL ; the northern crown.

18. AL-KALB ; the Scorpion's heart.

19. AL-SHAULA ; two stars in the tail of Scorpio.

20. AL-NAAIM ; eight bright stars, four of which lie in the milky way, and four of them out of it ; those in the milky way are called AL-WARIDA, or camels going to water; those out of it, AL-SADIRA, or camels returning from water.

21. AL-BELDA ; " quod urbem, oppidumve denotat," says Dr. Hyde. According to some of the Arabian astronomers, it means six stars in Sagittarius, where is the sun's place the shortest day of the whole year ; according to others, it is a portion of the heavens entirely destitute of stars, succeeding the AL-NAAIM. Why a vacant space should be called a *town*, or *city*, the learned commentator has not informed us : I should rather think the name alluded to the extraordinary number of six stars which crowd this lunar *abode* in Sagittarius.

22. AL-DABIH ; four stars in Capricorn.

23. SAD-AL-BULA ; the sixth star in Ulug Beg's table of Aquarius : it is probably that marked ν, by Bayer.

24. AL-SUUD ; two stars in Aquarius ; marked by Bayer, β, ξ.

25. AL-ACHBIYA ; four other stars in Aquarius ; marked by Bayer, γ, υ, ζ, η, and Θ.

26. AL-PHERGH AL-MUKADDEM ; two bright stars, of which the northern one is called the shoulder of Pegasus. They are marked by Bayer, α, and β, in his table of that constellation.

27. AL-PHERGH AL-MUACHHER ; two bright stars at a distance from each other, following Al-phergh al-mukaddem. One is in the

head of Andromeda, and the other is Bayer's γ, in the extremity of the wing of Pegasus.

28. Al-risha ; funes, the cord ; that is, of the fishes. In Alfragani this lunar mansion is denominated Batn-al-hut, venter piscis ; and is said to mean the stars of the Northern Fish.*

Such are the Lunar Mansions of Arabia, an account of which I have extracted from Ulug Beg, with Costard's remarks upon them, where more ample illustration was necessary, as Hyde in several instances gives us only the names, and not the situation of the stars on the sphere. I insert below the table of the longitudes and latitudes of these mansions, as they may be useful to those gentlemen who may be engaged in astronomical studies in India. This table is the result of Mr. Costard's unwearied diligence to elucidate Oriental astronomy ; who has been at the pains of reducing to a medium the longitude and latitude of those mansions which consist of several stars. He observes, that whatever opinion may be entertained relative to their antiquity, they must, at all events, be older than the time of Mohammed, because the lunar stations, as well as the solar, are alluded to in the Koran, in the following passage. "Posuit Deus solem in splendorem, et lunam in lumen ; et disposuit eam in statione ut sciretis numerum annorum."

* Vide Ulug Beg's Tabulæ Stellarum Fixarum, by Hyde, p. 8. of the Editor's Commentary ; and Costard's Chaldaic Astronomy, p. 26.

TABLE OF LONGITUDES AND LATITUDES OF THE MANAZIL-AL-KAMAR OF THE ARABIAN ASTRONOMERS.

No.	Longitude.	Latitude.	No.	Longitude.	Latitude.
1	0'. 26°. 40'	7°. 13'½	15	6°. 26°. 44'½	9. 30
2	1. 09. 02½.	2. 12'	16	7. 09. 55'	2. 30
3	1. 22. 01	3. 45'	17	7. 26. 16'	5. 27
4	2. 02. 31	5. 15'	18	8. 02. 16'	4. 30
5	2. 16. 31	13. 30'	19	8. 16. 13'	13. 43½
6	3. 01. 31	7. 12'	20	8. 28. 04'	10. 48
7	3. 14. 19	8. 12'	21	0. 00. 00'	00. 00
8	3. 29. 46	1 00'	22	9. 26. 20'	5. 46
9	4. 13. 16	11. 03'	23	10. 05. 14'	7: 37
10	4. 22. 13	0. 09'	24	10. 16. 11'	7. 46
11	5. 03. 04	15. 27'	25	11. 00. 10'	8. 24
12	5. 13. 49	2. 00'	26	11. 18. 46'	24. 55
13	5. 29. 28	4. 27'½	27	0. 03. 55'	18. 52
14	6. 16. 10	2. 09'	28	0. 23. 13'	25. 36

Nearly all the most ancient festivals of India have reference to the age of the moon, and the influence of her orb in the different periods of her waxing and waning; a striking proof, among many others, that the Indians watched with equal diligence, the motions of that important planet. Their Nac Shattra are accurately exhibited by Sir William Jones, in the second volume of the Asiatic Researches, and are inserted below for the sake of comparison; they are in number, as was before observed, only twenty-seven, and to each of them the Indian astronomers allow thirteen degrees, and twenty minutes. Two lunar mansions, and a quarter, are co-extensive with one solar asterism; and nine of those mansions correspond with four of those asterisms. I have added, from M. Sonnerat, their conceptions in regard to the good or evil influences supposed to be shed by the different Nac Shattras; a drawing of which is given in the Asiatic Researches, together with the fol-

lowing account of them translated by Sir William from an ancient Sanscreet poem. From the great simplicity of the objects by which they are designated, the whole has the appearance of being perfectly original, and most of the objects themselves have an immediate relation to India.

1. A HORSE's head.
2. *Yóni* or *bhaga.*
3. A razor.
4. A wheeled carriage.
5. The head of an antelope.
6. A gem.
7. A house.
8. An arrow.
9. A wheel.
10. Another house.
11. A bedstead.
12. Another bedstead.
13. A hand.
14. A pearl.
15. A piece of coral.
16. A festoon of leaves.
17. An oblation to the gods.
18. A rich ear-ring.
19. The tail of a fierce lion.
20. A couch.
21. The tooth of a wanton elephant, near which is the kernel of the *sringâtaea* nut.
22. The three footsteps of VEESHNU
23. A tabor.
24. A circular jewel
25. A two-faced image.
26. Another couch.
27. A smaller sort of tabor.

Many of these designations will be thought whimsical enough; while others must be owned to be strictly appropriate, I shall point out a few more particularly so. The Aswni, or horse's head, is the EQUULEUS, of our sphere; and though not much noticed in modern astronomy, makes one of the forty-eight old constellations, and was considered by the ancients as a very important one. The figure pourtrayed is that of the head, and part of the neck of a horse, and is placed just before the head of the Pegasus. Affixed, as it were, to that head, it exhibits the appearance of another horse, urging forward by the side of him, and just getting the start of Pegasus, by the head and neck. Truth compels me, though delicacy might forbid me, to inform the reader that the second lunar mansion, of which only the Sanscreet appellative is,

for decency's sake, inserted in the preceding list, is designated by the *pudendum muliebre*, a circumstance which, however it may shock the feelings of an European, is to be explained by the general immersion of the ancient Indians in physical researches, and in a species of devotion already extensively explained in the Indian Antiquities. The pious Jesuits, in the Lettres Edifiantes, less immersed than the Indians in physical speculations, have ludicrously converted this asterism into *an elephant;* and as Costard, and other European astronomers, have been deceived by their accounts, it is absolutely necessary to be thus particular, as well as to point out the passage in which this and other misrepresentations occur.* The fourth lunar mansion, or wheeled carriage,

* The passage alluded to is to be found in the long and curious letter of M. De la Lande, from Pondicherry, in the tenth volume of the LETTRES EDIFIANTES ET CURIEUSES: "They know," says this author, "the twelve signs of the zodiac, and call them in their language by the same names as we do; but it may be proper to take notice of the manner in which they divide the zodiac and its signs. They distribute that part of the heavens which answers to the zodiac into twenty-seven constellations. Each of these constellations consists of a certain number of stars, called in the same manner as with us, either after the name of an animal, or some inanimate object. They compose these constellations of parts of our signs, and of some other stars situated near them. Their first constellation begins at the Ram (including one or two of its stars, with some others near them), and they call it Achouini (Aswini), signifying, in their language, horse; they imagining that this constellation forms the shape of that animal. The second begins upwards, towards the sign of the Bull, and is called Barani (Bhaga), they fancying it to be shaped like an *elephant*, and so of the rest.

"Every sign comprehends two of these constellations, and the fourth of another; which forms exactly twenty-seven constellations, in the whole extent of the zodiac, or twelve signs. They subdivide each of the said constellations into four equal parts, each of which is distinguished by a word of one syllable; so that the whole constellation is called by a whimsical word of four syllables, of no signification, and only expressing the four equal parts.

"They also divide each sign into nine quarters of a constellation, which are so many of their degrees, and equal to three degrees twenty minutes of ours.

"In fine, according to these principles, they divide the whole zodiac into an hundred and eight of their degrees; so that, to point out the place where the sun is, they first name the sign, afterwards the constellation; and lastly, the degree or part of the constellation to which the sun corresponds. If it be the first part, they use the first syllable; if the second part, the second syllable; and so in regard to all the rest."

may be the car, drawn by antelopes, in which Chandra or the moon rides; the fifth, is the head of the animal who draws that car; the sixth is a gem, and a brilliant star, in poetical language, is a sparkling gem; the seventh, is a house, very applicable to a lunar *mansion;* the eighth, is an arrow, the ray of Chandra; the ninth, is a wheel, an object connected with the idea of a carriage in motion; the tenth, another house or mansion; the eleventh, a bedstead, the place of repose in that mansion; the twelfth, another bedstead, or place of repose. Among the rest more deserving of notice, are the sixteenth, or festoon of leaves, the sacred garland that crowns the statues of Indian gods; the seventeenth, is probably Noah's oblation, the oblation that smokes on the altar of the ancient sphere; the twentieth, a couch, the place of transient rest; the twenty-second, the three steps of Veeshnu in the fifth or dwarf avatar; the twenty-third, a tabor, a sacred utensil used in the festivals of Chandra; the twenty-fifth, a two-faced image, or Janus, probably allusive to the great patriarch, who saw the destruction of one world, and the renovation of another; the twenty-sixth, another couch, or short resting place; the twenty-seventh, another tabor, or sacred musical instrument, to which the Bayederes, or dancing girls of the pagoda, beat time with the motions of their airy feet. I shall conclude this short retrospect upon the objects by which the lunar mansions are designated, with observing, that the two bedsteads, and two couches above enumerated, may assist in explaining the HADRITEIMAN, *or private chambers of the south,* mentioned in Job; which doubtless alluded to the secret retreats, or resting-places of the moon; performing her nightly journey, or, as our Scriptures sublimely express it, *walking in brightness* through the firmament.

The Indians seem to have been, at some time or another, so absorbed in the lunar astronomy, that they have multiplied tables

of these mansions, for another series of them is subjoined by the President, and I do not think myself at liberty to omit it.

1. A horse's head.
2. *Yóni*, or *bhaga*.
3. A flame.
4. A waggon.
5. A cat's paw.
6. One bright star.
7. A bow.
8. A child's pencil.
9. A dog's tail.
10. A straight tail.

11. Two stars S. to N.
12. Two, N. to S.
13. A hand.
14. A pearl.
15. Red saffron.
16. A festoon.
17. A snake.
18. A boar's head.
10. A conch.

20. A winnowing fan.
21. Another.
22. An arrow.
23. A tabor.
24. A circle of stars.
25. A staff for burdens.
26. The beam of a balance.
27. A fish.

Upon this table there is no necessity for any extended comment. We ought, however, particularly to notice among these asterisms, the sacred *flame*, first venerated in Chaldea; the *wain*, or *waggon*, their first constellation; the *bow* of Sagittarius; the *cynosura*, canis cauda, or *dog's tail*, of the Phœnicians; *red saffron*, used in the Indian pooja, or worship; a *boar's head*, alluding to Veeshnu, in his second incarnation, when on a boar's tusk, he brought up the earth, sunk into the abyss during the general deluge; a *snake*, or *serpent*, the animal so universally venerated in the Asiatic world, both as an emblem of the sun, and of revirescent vigour; the *conch*, or shell blown during the public worship in India; two *winnowing fans*, marking their early progress in the science of husbandry; the pilgrim, or Brahmin staff; and the Libra, and Pisces of the solar zodiac.

TABLE OF THE TWENTY-SEVEN NAC SHATTRA, OR LUNAR MANSIONS OF INDIA.

	Luuar Mansious.	Aspects.	Solar Asterisms.	Stars.
1.	Aswini.	good	Ram.	*Three*, in and near the head.
2.	Bharani.	bad	——	*Three*, in the tail.
3.	Critica.	bad	Bull.	*Six*, of the Pleiades.
4.	Rohini.	good	——	*Five*, in the head and neck.
5.	Mrigasiras.	good	Pair.	*Three*, in or near the feet, perhaps in the galaxy.
6.	Ardra.	bad	——	*One*, on the knee.
7.	Punarvasu.	good	——	*Four*, in the heads, breast, and shoulder.
8.	Pushya.	good	Crab.	*Three*, in the body and claws.
9.	Aslesha.	bad	Lion.	*Five*, in the face and mane.
10.	Magha.	good	——	*Five*, in the leg and haunch.
11.	Purvap'halguni.	bad	——	*Two*, one on the tail.
12.	Uttarap'halguni.	good	Virgin.	*Two*, on the arm and zone.
13.	Hasta.	good	——	*Five*, near the hand.
14.	Chitra.	bad	——	*One*, in the spike.
15.	Swati.	good	Balance.	*One*, in the N. scale.
16.	Visac'ha.	bad	——	*Four*, beyond it.
17.	Anuradha.	good	Scorpion.	*Four*, in the body.
18.	Jyesht'ha.	bad	——	*Three*, in the tail.
19.	Mula.	good	Bow.	*Eleven*, to the point of the arrow.
20.	Purvashara.	bad	——	*Two*, in the leg.
21.	Uttarashara.	good	Sea-monster.	*Two*, in the horn.
22.	Sravana.	good	——	*Three*, in the tail.
23.	Dhanisht'a.	good	Ewer.	*Four*, in the arm.
24.	Satabhisha.	good	——	*Many*, in the stream.
25.	Purvabhadrapada.	good	Fish.	*Two*, in the first fish.
26.	Uttarabhadrapada.	good	——	*Two*, in the cord.
27.	Revati.	good	——	*Thirty-two*, in the second fish and cord.

On this lunar division of the heavens, and these good or malignant aspects of the Nac Shattra, a very intelligent writer remarks: "The Indians divide the zodiac into twelve signs, whose names, in their language, correspond with those we received from the Greeks, who borrowed them from the Egyptians; that is, the Indians, whom recent researches prove to have been ancient tenants of the Higher Egypt. They also have the same number of planets as we have; and employ them as we do, in denoting the days of the week; a practice they likewise received from the

Egyptians, among whom this septenary division was very ancient; whether these had borrowed it from the Jews, or that the latter took it from the Egyptians; a circumstance we are to understand only with regard to the number of days, the Hebrews not calling the days of the week after the names of the planets. Though these names vary in India, according to the different languages, the name Buda, which was famous among the ancients, as we shall soon shew, is universally considered as the place of Mercury, and denotes Wednesday among the Malabarians, the inhabitants of Ceylon, and the Siamese. The Brahmins, besides the signs of the zodiac, count twenty-seven constellations, which they chiefly use (as well as the planets) for foretelling futurity; and for insinuating themsleves, in quality of astrologers, into the courts of the Indian kings, who are very fond of these idle predictions, as well as of auguries, palmistry, and various other chimeras, which even some European nations, notwithstanding the light of the Gospel, have not yet quite laid aside.*

For the assistance of those who may be inclined to re-examine the twenty-seven preceding constellations, with a chart before them, there is subjoined a table of the degrees to which the Nac Shattras extend respectively, from the first star in the asterism of Aries, which we now see near the beginning of the sign Taurus, as it was placed in the ancient sphere.

* See M. La Croze, Hist. du Christianisme des Indies, p. 483.

TABLE OF THE LONGITUDE AND LATITUDE OF THE NAC SHATTRA OF THE INDIAN ASTRONOMERS.

N.	D.	M.	N.	D.	M.	N.	D.	M.
1.	13°	20′	10.	133°	20′	19.	253°	20′
2.	26	40	11.	146	40	20.	266	40
3.	40	0	12.	160	0	21.	280	0
4.	53	20	13.	173	20	22	293	20
5.	66	40	14.	186	40	23.	306	40
6.	80	0	15.	200	0	24.	320	0
7.	93	20	16.	213	20	25.	333	20
8.	106	40	17.	226	40	26.	346	40
9.	120	0	18.	240	0	27.	360	0

The asterims of the first column are in the signs of Taurus, Gemini, Cancer, Leo; those of the second, in Virgo, Libra, Scorpio, Sagittarius; and those of the third, in Capricornus, Aquarius, Pisces, Aries.*

That this retrospect on the lunar astronomy of Asia may be complete, I shall also present the reader with the lunar zodiac of China, and a table of longitudes and latitudes, according to the Chinese astronomers, extracted from Martinius, one of the most authentic writers we have on the history and antiquities of that country. These are all the zodiacal divisions of the kind known to us; and however in some points they may vary, according to the correctness or the inaccuracy of different astronomical calculations in different countries, there is one great outline of character that runs through them all, proving that they originally flowed from the same source, and were promulged in the same primitive school. The invention of the Chinese lunar zodiac is attributed to the emperor Yu, son of Xun or Shun, who flourished, according to this

* See Asiatic Researches, vol. II. p. 324.

author, about the middle of the third great sexagenary cycle, and in the twenty-third century before Christ. XUN invented a great sphere of gold, set with jewels, exhibiting the earth and revolving planets, as far as their revolutions were at that time known; and ascertained they must have been, even at that remote period, with some precision; for the sexagenary cycle itself, at least that of India, is formed from the multiple of five revolutions of Jupiter, which, allowing twelve years to that revolution, amount to SIXTY. On this sphere the planets were represented by jewels that best corresponded to them; and, in this instance, Dr. Long, a better astronomer than a mythologist, in a very remarkable manner confirms all that I have said relative to the colours of the planets, and the astrological speculations of the ancients, when he observes, that by corresponding jewels they probably meant to denote "their colours, and supposed virtues."* Animated by the noble example of his father, the imperial YU, and scientific men under his protection, proceeded to the formation of a zodiac somewhat singular in its design, and novel in its object.

The Chinese lunar constellations are in number twenty-eight, and the astronomers of that country have this particularity in their system, that they assign four of these constellations to each of the seven planets, so that the year always begins with the same planet: they also include in them all the stars which are in the heavens, as well as those that lie within our solar zodiac, as those that lie beyond it. Du Halde has enumerated the Chinese names of these constellations, from whose book they are copied into Dr. Long;† but as Martinius has exhibited a complete table of these asterisms, together with their longitudes and latitudes, I prefer presenting the reader with the whole table, rather than a mutilation of the Chinese system of primitive astronomy. A few introductory lines from Martinius will illustrate the subject under consideration:

* See Long's Astronomy, vol. II. p. 662.

† Du Halde, vol. III. p. 96.

"Constellationes autem Sinæ numerant viginti octo; quas nostris lunæ mansionibus pari numero definitis olim respondisse arbitror. Nam singulæ quosdam in cælo gradus occupant, inæqualiter tamen, itaque, et simul totum circulum compleant gradus trecenti et sexaginta; licet à Sinis totus circulus dividatur in gradus trecentos et sexaginta quinque, minuta viginti quinque, ad motum nimirum solis annuum. Has viginti octo constellationes nostro modo ad calculum vocatas, ad annum millesimum, sexcentesimum, vigesimum octavum hic ponere visum est. Pro reliquis annis illarum longitudo facile per motum stellarum fixarum eruetur. Terras vero illis subjectas non adscribo, quod in Atlante extremæ Asiæ satis id superque præstiterim."*

* Martini Martinii, p. 51.

TABLE OF THE TWENTY-EIGHT LUNAR ASTERISMS OF THE CHINESE ASTRONOMERS, WITH THE LONGITUDES AND LATITUDES.

Nomen.		Longit.		Gaadus.		Signa.
Kio - - -		198	39	18	39	♎
Kang - - -	♀	209	14	29	14	♎
Ti - - -	♄	219	54	9	54	♏
Fang - - -	☉	237	48	27	48	♏
Sin - - -	☾	242	34	2	34	♐
Vi - - -	♂	250	7	20	7	♐
Ki - - -	☿	265	43	25	43	♐
Teu - - -		275	3	5	3	♑
Nieu - - -	♀	298	54	28	54	♑
Niu - - -	♄	306	35	6	35	♒
Hiu - - -	☉	318	14	18	14	♒
Guei - - -	☾	328	13	28	13	♒
Xe - - -	♂	346	20	18	20	♓
Pi - - -	☿	4	1	4	1	♈
Quei - - -		15	32	15	32	♈
Leu - - -	♀	28	46	26	46	♈
Guei - - -		41	46	11	46	♉
Mao - - -	☉	53	37	23	37	♉
Pie - - -	☾	63	16	3	16	♊
Sang - - -	♂	77	14	17	14	♊
Cu - - -	☿	78	35	18	35	♊
Cing - - -		90	8	0	8	♋
Queiu - - -	♀	120	33	0	33	♌
Lieu - - -	♄	125	9	5	9	♌
Sing - - -	☉	142	9	22	9	♌
Chang - - -	☾	150	32	0	32	♍
Ye - - -	♂	168	36	18	36	♍
Chin - - -	☿	185	36	5	36	♎

Of the whole of the words forming the preceding list of asterisms we have no exact translation, but they are, for the most part, original and strictly local, being the names of distinguished rivers, mountains, provinces, and towns of China, articles of domestic furniture, and implements of agriculture, in which circumstance they partly agree with those of India. What is exceedingly remarkable in regard to the Chinese constellations is, that the forms of them are not regulated by the corresponding name of the designating object, like those of Greece, as in the instance of the Ram, the Lion, the Bull, &c. but the stars themselves are denoted by small circles, and are connected together by short straight lines, running from one to the other, of which Dr. Long had ocular evidence, in a Chinese astronomical book shewn him by the old Earl of Pembroke; and of which mode of designating them, he has exhibited a specimen in the figure of the *Great Bear*, represented after the Chinese manner.

Having now traced this ancient custom of partitioning out the heavens into lunar mansions to the eastern extremities of Asia, let us return to the primæval country whence our excursion commenced, and once more explore the arcana of the observatory of Belus.

One of the strongest proofs of the early proficiency of the Chaldeans in astronomical science is exhibited in the famous period invented by that people, and called the SAROS, or cycle of 18 years, containing 223 complete lunations; a period afterwards improved by Meto, the Grecian astronomer, and falsely asserted to have been of his original invention. In fact, however, the Metonic cycle has been proved by M. Bailli* to have been immemorially known to the Brahmin astronomers, doubtless from their connection with those of Chaldea, and to have formed the basis of many extensive calculations, enumerated in the Siamese

* See M. Bailli's Astronomie Indienne, p. 5.

tables that were brought into Europe by M. la Loubere in 1687. They had likewise in their system of astronomy another great period of 60 years, which they called Sossos, and which I believe to be the same with the sexagenary cycle of India and China: and they had the still greater lunisolar period of 600 years, by Berosus called NEROS. This is the Magnus Annus of Josephus, mentioned before; and this period also is well known to the Brahmins. On this wonderful coincidence of the Chaldean and Indian astronomy, which demonstrates the system to have originated from one source, M. Sonnerat has offered some very judicious remarks, which I shall present the reader with in his own words, as well as the interesting calculations, illustrative of the periods of the four YUGS, formed in consequence of it.

He had previously observed, that the Brahmins have fixed the precession of the equinoxes, or annual motion of the fixed stars from west to east, to be after the rate of 54 seconds in a year. This reckoning, however, is erroneous; the supposed motion, according to Mr. Playfair, being too quick by somewhat less than 4 in a year.* Upon calculations regulated by this mode of computation, they formed their cycle of 60 years; and hence their Annus Magnus, or the period in which the fixed stars complete an entire revolution, came to consist of 24,000 years, which has been before observed to be a mistake; since that revolution, by the precession of the equinoctial points, after the rate of a degree in 72 years, is not performed in a less period than 25,920 years. There cannot be a greater proof of a former remark of Sir William Jones, that in all Indian calculations cyphers are added at pleasure to swell the sum of their chronology, for the Chaldean Neros of 600 years, seems only to be the multiple of the Sossos, or cycle of 60 years; and the 4,320,000, the amount of the four yugs, nothing more than the

* See Mr. Playfair on the Brahmin Astronomy. Edinb. Transact. Vol. II. p. 141.

multiple of 432,000, the years of the duration of the Cali, or present YUG.

" In effect," says M. Sonnerat, " the period of sixty years and that of six hundred have the same relation as the numbers 432,000 and 4,320,000, of which the Brahmins make use in their astronomical calculations. These periods contain a determined number of time; the anomalistic period of two hundred and forty-eight days, which the Brahmins make use of for the motion of the moon and its apogee, supposed to part at the same time, from the same point, and to move in the same way, to meet at the end of two hundred and forty-eight days, at the same hour, and at the same point from whence they set out.

" The fixed stars advancing 54 minutes in 60 years, their progress will be in 3,600 years of 54 degrees, - - 3,600 years.

" This period is called Saros by Berosus; therefore the fixed stars, in 24,000 years, make their entire revolution, or 360 degrees, 24,000 years.

" Nine of these revolutions make - - 216,000 years.

" But it is to be observed, that the period of 60 years, and that of 600 years, reduced into days of 360 in the year, produce the numbers 21,600, and 216,000; of which the last expresses the years here marked.

" This sum, multiplied by 2, furnishes the duration of the 4th or Cali yug, - - - - 432,000 years.

" Berosus also speaks of the astronomical observations made by the ancient Chaldeans, during the same number of years, viz. 432,000; but Mr. Le Gentil proves extremely well, that the ancients supposed, in their calculations, that the year had three hundred and sixty days, and divided into a thousand equal parts; therefore the 432,000 years of the Chaldeans, were no more than 432; and the 720,000, which some authors mention, only 720, as we may read it in Pliny.

		Years.
" The fourth age, multiplied by 2, gives for the 3d,		864,000
multiplied by 3, gives for the 2d,		1,296,000
multiplied by 4, gives for the 1st,		1,728,000
Therefore these ages contain, the 1st, 4 periods	of	432,000
the 2d, 3 ditto		
the 3d, 2 ditto		
the 4th, 1 ditto		
These ten periods make - - -		4,320,000

" We must here remark, that the figures 4, 3, and 2, which express the relation of the three first ages, being written thus, 4, 3, 2, make 432; which corresponds with the four hundred and thirty-two years of the astronomical observations of the Chaldeans: and supposing each of these years divided into a thousand parts, we shall find 432,000, a number equal to the Cali yug.

" However prodigious these numbers are, and more so those of the lives of Brahma and Veeshnu, we should never forget that they take their rise from the precession of equinoxes of fifty-four seconds, more or less times repeated; these monstrous numbers will then cease to appear absurd."

For thus returning to Chaldea as to the central region where astronomy had its birth, we are not less warranted by the authority of profane than sacred writings. To the arguments already enumerated from the latter may be added, the remarkable and express testimony of Cicero: " Principio Assyrii, propter planitiem magnitudinemque regionum quos incolebant, cum cœlum ex omni parte patens et apertum intuerentur, trajectiones motusque stellarum observarunt."* Indeed, so favourable to astronomical researches was the uninterrupted view from this vast and wide plain of Shinar, called by the Arabians Sin-jar at this day, that we are informed, the great Caliph Almamoon, the seventh of the line of the Abas-

* Cicero de Divinatione, lib. 1. p. 3.

sides, caused observations of the celestial bodies to be made on this very plain, which served all the astronomers of Europe for several ages. The same conduct was adopted by Gelaledin Malek Shah, the third sultan of the Seljukian dynasty, nearly three hundred years after. Thus early in the Mohammedan æra did astronomy, enraptured, revisit the spot whence it darted its first ray to enlighten mankind.

The solar zodiacs of Asia now demand our attention, and the consideration of them, especially that of India, will open to us an important and interesting scene. The order in which the signs of the solar zodiac succeed each other, corresponding with the regular returns of the seasons, as they take place in a happy and temperate clime, proves that we must look for the origin of its fabrication to some region of the earth as far removed from the ardours of a tropic sun, like that which scorches the burnt soil of Egypt, as from the rigours of that eternal frost which binds up in its icy embrace the barren deserts of Siberia.

In our inquiry into the first formation of the zodiac, two things demand particular consideration; the period in which it was invented, and the manner after which it was fabricated. It is a circumstance exceedingly probable, but by no possible means to be proved, that the ante-diluvians had formed a zodiac for the general mensuration of time, for the purposes of civil life and agriculture, and the periodical celebration of religious solemnities. It can scarcely be imagined, that society could exist in order and harmony without this improvement. The account which Moses gives of the time employed in the creation, added to his calculation of the lives of the ante-diluvian patriarchs, demonstrate that mankind were very early acquainted as well with the greater as the subordinate divisions of time. The immemorial custom of computing by weeks, or periods of seven days, was undoubtedly derived from an ancient tradition of the time employed in creating the world. It is remark-

able, that the period assigned by the Hebrew historian for the duration of the deluge amounts precisely to a year, and that year was the ancient lunisolar year, consisting of twelve months of thirty days each. Whiston is so far from doubting the perfect acquaintance of the ante-diluvians with this famous lunisolar period, that on the implicit adherence to it of their early post-diluvian progeny, in consequence of their veneration for the maxims of their ancestors, he charges all the errors of their astronomical calculations, and founds upon it no mean argument for the support of his fanciful hypothesis, that our planet received a shock during the approach of the comet, which, according to that hypothesis, was the secondary means of inundating the globe. Always learned and ingenious, however fanciful in his positions, I shall not fear offending by the exhibition of his reasoning on this curious subject:

"The true length of the solar year," he observes, "was so long unknown after the deluge, that there must have happened some mighty change and lengthening thereof at the deluge, or else no rational account can be assigned of so gross and so lasting an ignorance. It is not to be questioned but the ante-diluvian patriarchs were perfectly acquainted with the ante-diluvian year; every one of those mentioned in Scripture having seen so many summers and winters, or natural solar years, that himself was able to ascertain their length, and correct any mistake about them. It is also not to be doubted, but the post-diluvians would have retained the same year, and determined it by the same number of days as their forefathers, had they found it to agree with the course of the sun and moon as exactly after the deluge as it had done before. But it is evident, from the most ancient authors, that it was many hundred years after the deluge before the most learned nations rectified their year to the sun's true course, or arrived at more than 360 days in their calculations. This number accordingly was the measure of the degrees of the zodiac, or ecliptic circle, and thence of all other

circles among the astronomers, and the measure and standard of a year for many ages; till astronomical observations forced men to correct the same.

"Now all this, on the present hypothesis, is easy and natural; that when the ante-diluvian year was just 360 days long, and after the deluge was insensibly become above 365 days, without the least knowledge or suspicion of any change therein; it is, I say, very easy and natural in this case to suppose, that upon their observing, in length of time, the seasons to be protracted, and return still later every year than in that preceding; (as on the retaining the ante-diluvian year must needs happen) and consequently their ancient standard of 360 days, to be too short for the sun's revolution; that they should lengthen their accounts to 365, and at last to 365¼ days in the whole year. And indeed this most ancient adjustment of the year and months, with the degrees of a circle, and of each sign in the ecliptic, was found so easy, ready, and useful on all accounts, that even when the odd five days were added afterward, they were not inserted into the months, nor perhaps esteemed part of the year, but looked upon as Ἡμεραι Ἐπαγομεναι, *adventitious* or *odd* days, or days *superadded* to the old and established year of the world; as being of a quite different denomination and character from all the rest. However, it is very agreeable to reason and ancient history, that on the observation of the protraction of the seasons, and on the improvement of astronomy, the year should be increased from 360 to 365 days; and afterward (the observations of the more learned astronomers enforcing it), from 365 to 365¼, or the *Julian* year, which with us is retained to this very day. All this is, I think, easy and natural in the present case, upon that *hypothesis* which is here defended; but without it is very strange and unaccountable. It is, I say, very *strange* and *unaccountable* either that the *ante-diluvian* patriarchs should not know the length of their own year; or that none of their posterity, but such as were

guided *in it* by divine revelation, should retain the same afterwards: but be forced to make use of one that was so far from corresponding to those seasons, and that revolution of the sun with which a year was on purpose designed to be commensurate."*

What has been above submitted to the reader relative to antediluvian astronomy, is at best conjecture. Our more immediate business is to explore, and to detail, the first known efforts of the post-diluvian race to form a zodiac. It was impossible for those diligent observers who so incessantly marked the nocturnal progress of the moon, and so exactly counted her lunations, not to attend occasionally to the revolutions of the brighter *planet*; for such they conceived the sun to be. By comparing together the motions of these respective orbs, they soon discovered, that one revolution of the latter included nearly twelve of the former. Hence a year of twelve lunations was formed, in every one of which were reckoned thirty days; and hence doubtless came the first division of the ecliptic into 360 degrees. This, however, was by no means effected at once; before they could properly fix the extent of each constellation, which composed the respective signs of the zodiacal circle, precisely to thirty degrees, a long course of practical observations must have been submitted to, and the path of the sun among the fixed stars vigilantly explored. When they had proceeded thus far, it became necessary to distinguish each of the twelve divisions by a particular hieroglyphic designation, and the designating object or character would probably be consonant to the occupation and habits of those who formed it. Now as the rising and setting of the stars was of the most peculiar importance to husbandmen, it is probable, that the first delineation of an ecliptic was after a rude manner, and by instruments sufficiently uncouth, attempted by the earliest practitioners of that science, on the wide champaign of Babylon. Lucian, indeed, insists, that the Egyptians partitioned out the zodiac

* Whiston's Theory of the Earth, p. 211, oct. ed. 1722.

into twelve signs, designating them by the names of the sacred animals adored in Egypt;* and I know M. Dupuis is decidedly of opinion, that, notwithstanding any appearances to the contrary, that zodiac was formed by the race of Mizraim. To support either hypothesis it should be proved, that the Sabian superstition, which gave birth to the symbolical animals, and the cultivation of agriculture, originally commenced on Egyptian ground; whereas the loud and unanimous voice of history asserts the direct contrary.

The method which the ancients adopted in dividing the solar zodiac has been but imperfectly related to their posterity. The Egyptians are recorded to have first measured the course of the sun, and the periods of time, by the clepsydra, or water-clock. The original invention of that instrument is ascribed to the great astronomer Thoth, who, as the fiction goes, observing the baboon to stale twelve times in the day, at equal intervals, borrowed thence the idea, and contrived an instrument which produced the same effect. Whatsoever might have been the origin of the clepsydra, it has been immemorially used for this purpose in all Asiatic nations: in particular by the Chaldeans and the Chinese; the latter of which nations are said by father Gaubil to have formed their zodiac by it.† The clepsydra was succeeded by a more accurate regulator of time, the gnomon, or sun-dial, the invention of which is universally attributed to the Babylonians, from whom, in all probability, the Jews received it. This must have been before the time of Ahaz, since it was in the days of his son Hezekiah, and for his recovery, that the shadow miraculously went back ten degrees upon the sun-dial of Ahaz. The fame of this miracle occasioned an embassy from the Babylonian monarch, to whom, as the sovereign of a race, the inventors of the gnomon, and otherwise deeply engaged in astronomical pursuits, the retrogradation of the sun must necessarily have

* Lucian de Astrologia, p. 540. Opera.

† Histoire de l'Astronom. Chin. tom. 2, p. 5.

been a subject of anxious inquiry. Herodotus also acquaints us, that the Greeks learned the use of the gnomon from the Babylonians. That the Egyptians, however, in very early periods, had the use of this astronomical instrument, is a fact that must be evident to every one who considers the infinity of columns and obelisks erected throughout Egypt, all of which were used as gnomons to mark the altitude of the sun, and give the length of the meridian shadow.

We have the authority of two ancient writers of great respectability, Sextus Empiricus, and Macrobius, for asserting that the ancients in forming their zodiac adopted the following very curious, however imperfect, method. Sextus Empiricus ascribes the honour of inventing this method to the Chaldeans; Macrobius contends, that the Egyptians were the authors of it. Agreeing in sentiment with the former, I prefer presenting to the reader the substance of what he has related. Having fixed upon some particular star distinguished by its magnitude and splendour, the diurnal revolution of which in the heavens they intend to measure, they took two vessels of copper, one of which had a cavity in the bottom, which they could open or close at pleasure; the other had no cavity in it. The first they filled with water, and placing it immediately over that which was empty, the instant they perceived the star in question appear above the horizon, they let the water in the superior vessel begin to run into the inferior and empty one, and they permitted it to continue running the whole of that night and the day following, till the star again appeared rising above the horizon, in the point of the heavens from which it had commenced its circuit the preceding night. By this means they obtained a complete revolution of the star, and they proceeded to measure the time of that revolution by the quantity of water which had run out during its performance. They divided the water, thus discharged, into twelve equal parts, imagining they could measure a twelfth part of a revolution of the

heavens by the time which this twelfth part of the water would require in running. Two other vessels were now procured of sufficient magnitude to contain a twelfth portion of the water and no more. They placed one of these vessels under the vessel which had the cavity first employed, and marked the stars which rose above the horizon while the water was running. They determined the extent of the signs or constellations in the path of the sun by that star which appeared above the horizon at the moment when one of the small vessels was filled.*

If ever this method of dividing the zodiac were in reality adopted, it could only have been put in practice by the shepherd astronomers of Chaldea, in the very infancy of the science. Its defectiveness appeared evident to the author who relates the story, and he acknowledges that the water would run off more rapidly towards the commencement than at the close of the experiment. Our better acquaintance with the principles of hydraulics enables us to perceive the error of the calculations formed upon it in a still more glaring point of view. Add to this, that much would depend upon the quantity of water put into the large vessel by the running of which the first great revolution of the star was computed, and much would depend upon the state of the atmosphere, whether dry or humid.

It was agriculture, in fact, that gave existence to the solar zodiac; the heavens were the brilliant calendar by which alone the first husbandmen could regulate their transactions; and their progress through the rural year was governed by the radiant march through the sky of the planet of day. There is no occasion to go with M. Dupuis to the hieroglyphics of Egypt for the origin of the solar asterisms; it was natural for the simple swain, observant of

* Sext. Empiricus Adv. Mathemat. lib. 3. p. 342. The reader may also consult Macrobius, for the Egyptian method of thus dividing the zodiac, in Somn. Scipionis, lib. 1. p. 107.

nature, and guided by her unvarying laws, to call this the season of the ram, and that the season of the kids, the original Gemini of the zodiac, as he successively beheld those animals, at particular seasons, obey her sovereign voice by instinctively exploring the females of the pasture, and propagating their respective kinds. The intense ardour of the sun, during a certain period of the year, parching up the ground, and preying upon the strength both of man and beast, would naturally enough be compared to some furious lion, who, rushing from the desert, might have ravaged their fields, or thinned the fold. To note the season of the solstices and equinoxes by animals and objects descriptive of the oblique or retrograde motion of the sun, would naturally occur to those to whom those seasons were so important, and the autumnal and brumal seasons would be marked by objects best illustrative of the vicissitudes of the atmosphere, and the corresponding occupations of the husbandman.

To say what those signs precisely were is, at this time impossible, since no sphere professedly Chaldaic has come down to posterity; but probably their zodiac did not materially vary from that which has descended to us, and which is engraved on our globes. M. Dupuis, who is decidedly of the opinion just intimated, that the ancients, by classing the stars of the zodiac into twelve constellations, designed to form for their own use a *rural*, as well as an astronomical calendar, designating, by expressive symbols, the various seasons of the revolving year, has many judicious remarks on this subject, and conceives that the Bull and Virgo, or rather the spike of ripe corn, which formed the original asterism of Virgo, to have been the zodiacal asterisms first delineated. His reasons, equally judicious and forcible, are in substance as follows:

The two most important periods of the rural year, were the season of ploughing the ground, and that of getting in the ripened corn. It was necessary that each of these seasons should be

presented by a particular appropriate hieroglyphic, the first method of writing, or conveying information not oral, and that of such a decisive and palpable kind, that its meaning could not be mistaken by the most ignorant spectator. Now the most plain and express symbol of tillage is the bull, or ox ; and of the period of the harvest there can exist no emblem more immediately indicative than ears of grain, or a female reaper bearing them. These are designated amidst the asterisms of every oriental zodiac, however varying in other respects, and they incontrovertibly prove, that the intention of the original fabricators was to point out to a race, devoted to astronomy and agriculture, by symbols impossible to be misinterpreted, the aspect of the heavens, and the state of the earth, at their most interesting periods, in a manner the most impressive, and by characters the most indisputable.

In confirmation of what M. Dupuis has asserted in relation to the early designation of the bull, as a solar asterism, I beg permission to propose an additional argument. Although, generally speaking, Chaldea be situated in a temperate climate, yet at particular seasons the air is uncommonly sultry, and the sandy soil very much parched, so that *there* also, as in many other eastern countries, the inhabitants are compelled to pursue their journey by night. Over the boundless undiversified champaign the stars are then their only guide, and the remarkable cluster of stars called the Hyades, in the Bull's head, of which the Al-debaran is the principal, and that not less distinguished cluster on his shoulder, named by the Greeks the Pleiades, and by the Romans, *Virgiliæ*, on account of their rising about the spring, could scarcely fail to engage very particular notice from the nightly traveller. On these accounts it can scarcely be doubted, but that the bull, comprehending those singular assemblages of stars already called asterisms, was the earliest formed of the zodiacal constellations, especially when what has been previously urged concerning the year

anciently opening in that sign shall have been fully considered. While allowing, however, the force of this representation, I mean by no means to admit his position, either that the Bull or Virgo, were first invented by the Egyptians, and the reasons for this dissent have been stated in the preceding chapter, viz. that in the most ancient periods of the world, according to the authorities there adduced, the bull was not generally made use of in the Egyptian husbandry, and that the seasons in Egypt not according with the order in which the signs of the zodiac succeed each other, Virgo, considered as a symbol of the harvest month, could not possibly be an asterism of their designation. It was under Leo and Virgo that the lands of Egypt were inundated, on which account they formed their fabulous sphynx, of the head of the lion, and breasts of a virgin, and their harvest does not commence till at least five months afterwards. The sphynx itself therefore, a symbol eternally occurring in their temples, and other national edifices, exhibits an unanswerable argument that the sign in question was not invented by the Egyptians, but in a country where astronomy began to flourish at an æra prior to its cultivation in Egypt.

That the lion was an asterism very early invented by the Chaldeans, may very probably be inferred as well from that animal's having been immemorially used throughout the East as a general symbol to express characters of daring intrepidity, or eminently exalted, like the sun in meridian splendour, as from the distinguished lustre shed by the very brilliant star called COR LEONIS, and another of nearly equal splendour in the tail of this constellation. These shining objects could scarcely fail of attracting the notice of those who, for agricultural purposes, marked the progress of the sun in his apparent annual revolution among the fixed stars. The two bright stars in Gemini, from their remarkable position in the heavens, may for the same reason be considered as having had similar influence upon the conduct of those who first fabricated the zodiac;

and Gemini must be numbered among the solar asterisms earliest formed. There is not in the whole zodiac any star more luminous or attractive than that of the first magnitude, called the Heart of the Scorpion, and therefore that constellation may also be referred to the most distant periods. The claws of the Scorpion, anciently forming a separate sign of the zodiac, and the circumstance before hinted at, of the adulatory incense offered on that subject to Augustus by the Roman poet, might incline us to think that the balance was a sign of modern date in comparison with the others, did we not see it engraved, together with Cancer, Capricorn, Leo, and Gemini, on the most ancient monuments of Egypt. This fact alone affords sufficient testimony, had we no other vouchers for it, that in the ancient world there existed other spheres and zodiacs, decorated with objects immediately allusive to the respective systems of mythology prevailing in the various empires which flourished in it. I shall presently proceed to examine some of them, and we shall perhaps find, in the course of our survey, that however they might in some instances vary, they all are still but copies of one grand original plan.

The primitive zodiac was in its designation simple, and as to its purport, sufficiently intelligible to the meanest capacity; it merely alluded to the celestial phænomena, and the practice of husbandry in the country of the people who formed it. The vast and complicated system of mythology afterwards formed upon the basis of astronomical speculations, was as yet unknown in that happy primeval and golden age of the world. The Sabian idolaters of Chaldea first corrupted and rendered intricate the system of astronomy: the philosophical priests of Egypt, by converting into divinities the mundane elements, and embodying the children of the air and fancy, increased the intricacy, and deepened the obscurity of it. The Greeks, in their ambitious design to be considered the inventors of that, as well as of every other science, endeavoured to bury its

original history in entire oblivion, and conceal its manifest allusions under an impenetrable veil of mystery and fable.

The beauty and vivacity of the Grecian fables have, indeed, too much contributed to keep alive that delusion, and sanction those errors which it is partly the business of this volume to develope and correct.

In the strictures which I am about to offer on the Indian zodiac, I must be greatly obliged to a very learned dissertation of Sir William Jones on its antiquity, in the second volume of the Asiatic Researches; for he alone has entered at any length into that interesting subject. He commences it with engaging to support an opinion (combated by the learned Montucla) that the Indian division of the zodiac was not borrowed from the Greeks or Arabians, but was known in that country from time immemorial; and that being the same in part with the zodiac in use among other nations of the old Hindoo race, the Chaldeans and Persians, it was probably invented by the first progenitors of that race before their dispersion. Montucla, in fact, asserts the high probability that the Indians had received the principles of their astronomy, at some time or other, by the intervention of the Arabs; for no man surely, says this author, can persuade himself that it is the ancient division of the zodiac, formed, according to some authors, by the forefathers of mankind, and still preserved among the Hindoos. Now Sir William undertakes to prove, that the Indian zodiac was not borrowed immediately or directly either from the Arabs or Greeks; but, since the solar division of it in India is the same in substance with that used in Greece, thinks it more reasonable to conclude, that both Greeks and Hindoos received it from an older nation, who first gave names to the luminaries of heaven, and from whom both Greeks and Hindoos as their similarity in language and religion fully evinces, had a common descent.

This is coming so immediately to the point in question, and so

directly elucidates many important points which have previously passed under consideration, that I hope the writer will excuse my giving, in nearly his own words, (for who is able to substitute better?) the substance of this dissertation, on the truth of which full dependance may be placed.

He first defends the astronomers of India from the charge of gross ignorance in regard to the figure of the earth, and the distances of the heavenly bodies; a charge which Montucla very boldly makes, on the authority of father Souciet. He remarks, that we must never confound the system of the Jyautishicas, or mathematical astronomers, with that of the Pauranicas, or poetical fabulists; for to such a confusion alone are to be imputed the many mistakes of Europeans on the subject of Indian science. From a venerable mathematician of Bengal, named Ramachandra, now in his eightieth year, Sir William learned the following particulars. "The Pauranics," said Ramachandra, "will tell you, that our earth is a plane figure, studded with eight mountains, and surrounded by seven seas of milk, nectar, and other fluids;* that the part which we inhabit, is one of seven islands, to which eleven smaller isles are subordinate; that a god, riding on a huge elephant, guards each of the eight regions; and that a mountain of gold rises and gleams in the centre; but we believe the earth to be shaped like a cadamba fruit, or spheroidal, and admit only four oceans of salt water, all which we name from the four cardinal points, and in which are many great peninsulas with innumerable islands: they will tell you that a dragon's head swallows the moon, and thus causes an eclipse; but we know that the supposed head and tail of the dragon mean only the nodes, or points formed by intersections of the ecliptic and the moon's orbit: in short, they have imagined a system which exists only in their fancy; but we consider nothing as true, without such evidence as cannot be questioned." Sir William could not

* See Indian Antiquities: the Geographical Dissert. p. 81

perfectly understand the old gymnosophist, when he told him, that the Rasichacra, or circle of signs (for so he called the zodiac), was like a Dhustura flower, meaning the datura, to which the Sanscrit name has been softened, and the flower of which is conical, or shaped like a funnel: at first he thought, that he alluded to a projection of the hemisphere on the plane of the colure, and to the angle formed by the ecliptic and equator; but a younger astronomer, named Vinayaca, afterwards assured him, that they meant only the circular mouth of the funnel, or the base of the cone; and that it was usual among their ancient writers to borrow from fruits and flowers their appellations of several plane and solid figures.

Sir William proceeds to inform us that the Indian astronomers divide a great circle, as we do, into three hundred and sixty degrees, called by them ansas or portions; of which they, like us, allot thirty to each of the twelve signs in this order:

Mesha, the Ram.	Tula, the Balance.
Vrisha, the Bull.	8. Vrishchica, the Scorpion
Mit'huna, the Pair.	Dhanus, the Bow.
4. Carcata, the Crab.	Macara, the Sea-monster.
Sinha, the Lion.	Cumbha, the Ewer.
Canya, the Virgin.	12. Mina, the Fish.

The figures of the twelve asterisms, thus denominated with respect to the sun, are specified by Sripeti, author of the Retnamala, in Sanscrit verses; and these he produces as his vouchers, in the original, with a verbal translation, which is as follows:

"The ram, bull, crab, lion, and scorpion, have the figures of those five animals respectively: the pair are a damsel playing on a vina, and a youth wielding a mace: the virgin stands on a boat in water, holding in one hand a lamp, in the other an ear of rice-corn: the balance is held by a weigher with a weight in one hand; the bow, by an archer, whose hinder parts are like those of a horse; the sea-monster has the face of an antelope; the ewer is a water-

pot borne on the shoulder of a man, who empties it; the fish are two, with their heads turned to each other's tails: and all these are supposed to be in such places as suit their several natures."

Sir William then proceeds, in the course of his elaborate dissertation, to present his readers with a comparative table of both the solar and lunar zodiacs, in which the lunar mansions are denoted by the first letters or syllables of their names. This table is exceedingly curious, and by casting his eye back on the table of the lunar mansions, exhibited in a preceding page, the reader will more readily perceive both its utility and accuracy.

COMPARATIVE TABLE OF THE SOLAR AND LUNAR ZODIACS OF INDIA.

MONTHS.	SOLAR ASTERISMS.	MANSIONS.
Aswin	Mesh	$A + bh + \frac{c}{4}$
Carti	Vrish	$\frac{3c}{4} + ro + \frac{M}{2}$
Agrahayan	Mit'hun	$\frac{M}{2} + a + \frac{3P}{4}$
Paush	Carcat 4.	$\frac{P}{4} + p +$ sl.9.
Magh	Sinh	$m + PU + \frac{U}{4}$
P'halgun	Canya	$\frac{3U}{4} + h + \frac{ch}{2}$
Chaitr	Tula	$\frac{ch}{2} + s + \frac{3v}{4}$
Vaisac'h	Vrischic 8.	$\frac{v}{4} + a +$ j 18.
Jaisht'h	Dhan	$mu + pu + \frac{u}{4}$
Ashar	Macar	$\frac{3u}{4} + S + \frac{dh}{2}$
Scravan	Cumbh	$\frac{dh}{2} + s + \frac{3pu}{4}$
Bhadr	Min 12.	$\frac{pu}{4} + u +$ r. 27.

Returning to the subject with examining which he set out, whether in reality the Hindoos have ever borrowed from the Arabs any part of their various learning, the president denies the existence of any evidence of a communication between the Hindoos and Arabs, on any subject of literature or science; for though there may be reason to believe, that a commercial intercourse subsisted in very early times, between Yemen and the western coast of India, yet the Brahmins, who alone are permitted to read the six Vedangas, one of which is the astronomical Sastra, were not then commercial, and most probably, neither could nor would have conversed with Arabian merchants. The hostile irruption of the Arabs into Hindostan, in the eighth century, and that of the Moguls under Chengiz, in the thirteenth, were not likely to change the astronomical system of the Hindoos: but the supposed consequences of modern revolutions are out of the question; for if any historical records be true, we know with as positive certainty, that Amarsinh and Calidas composed their works before the birth of Christ, as that Menander and Terence wrote before that important epoch. Now the twelve signs and twenty-seven mansions are mentioned, by the several names before exhibited, in a Sanscrit vocabulary by the first of those Indian authors, and the second of them frequently alludes to Rohini, and the rest by name, in his Fatal Ring, his Children of the Sun, and his Birth of Cumara; from which poem Sir William produces two lines, that his evidence may not seem to be collected from mere conversation:

Maitre muhurte sasalanch'hanena,
Yogam gatasuttarap'halganishu.

"When the stars of Uttarap'halgun had joined in a fortunate hour the faun-spotted moon."

This testimony being decisive against the conjecture of M. Montucla, the president forbears to urge, as he might, the great antiquity of Menu's Institutes, in which the twenty-seven aste-

risms are called the daughters of Dascha and the consorts of Soma, or the moon, and the strong testimony of the Brahmins, who assure him with one voice, that the names of the zodiacal stars occur in the Védas; three of which he firmly believes, from internal and external evidence, to be more than *three thousand* years old.

Having proved what he originally engaged to prove, the president closes his essay with the following observation, which is too important to my purpose, to be in the least abridged, I shall therefore give it verbatim. "The result of Newton's researches into the history of the primitive sphere was, that the practice of observing the stars began in Egypt in the days of Ammon, and was propagated thence by conquest in the reign of his son Sisac, into Afric, Europe, and Asia; since which time Atlas formed the sphere of the Libyans; Chiron that of the Greeks; and the Chaldeans a sphere of their own. Now I hope, on some other occasions, to satisfy the public, as I have perfectly satisfied myself, that the practice of observing the stars began with the rudiments of civil society, in the country of those whom we call Chaldeans; from which it was propagated into Egypt, India, Greece, Italy, and Scandinavia, before the reign of Sisac or Sacya, who by conquest spread a new system of religion and philosophy from the Nile to the Ganges, about a thousand years before Christ; but that Chiron and Atlas were allegorical or mythological personages, and ought to have no place in the serious history of our species."*

Thus far Sir William Jones, in answer to Montucla, and in defence of the antiquity of the Indian astronomy in general, but in particular of the Indian zodiac. With all their improvements in science, their progress in a complicated mythology still kept pace,

* Asiatic Researches, vol. ii. p. 301.

which varied its feature according to the literary pursuits of the nation.

We have already seen that a planetary genius presided over every day of the week in most of the ancient systems of mythology, and I must here observe that each of the twelve months, both in Chaldea, Egypt, and India, had a separate deity or genius assigned to preside over it.

It is Diodorus Siculus who affirms this circumstance of the Chaldeans, and it exhibits another feature of national character so remarkably strong, that, though unwilling to load these pages with Greek quotations, I cannot forbear citing it in the original; *των θεων δε κυριυς ειναι φασι δωδεκα τον αριθμον, ων εκαςω μηνα και των δωδεκα λεγομενων ζωδιων εν προσνεμυσι*:* the Chaldeans enumerate twelve principal gods after the twelve signs of the zodiac, and consecrate one month to each god, &c. To this statement of Diodorus, my former assertion that the Chaldean zodiac had only eleven figures engraved upon it, can be no valid objection; for if Scorpio usurped the space of two signs, or sixty degrees, undoubtedly the *Chelæ Scorpionis* were considered by them as a sign. Herodotus acquaints us with the same fact in regard to the Egyptians;† but this is not to be wondered at, as I conceive they are greatly indebted for many parts both of their civil and religious policy to the Indians. In regard to the Brahmins themselves, the tutelary genii which they have assigned to the twelve months, are called in Sanscrit by the general names of ADEETYAS, being the sons of the nymph Adeeti by Casyapa, the Indian Uranus; and their particular appellations, as I find them enumerated by Mr. Wilkins, are Varoon, Surya, Vedang, Bhanoo, Eendra, Ravee, Gabhastee, Yam, Swarna-reta, Deevakar, Meetra, Veeshnu‡. I have Mr. Halhed's respectable authority for asserting

* Vide Diod. Sic. lib. 2. p. 117. edit. Rhodoman.

† Lib. 2. cap. 82. edit. Wesseling.

‡ Geeta, p. 144.

that Meetra, the last but one of these Indian personages, is the Mithra, or solar genius of the Persians, which is a wonderful confirmation of what has been urged in the Indian Antiquities in regard to the close connection subsisting between the two nations of India and Persia. These doubtless have relation to the twelve principal gods of the Greeks, who are nothing but the powers of nature, and in particular the active fructifying energy of the solar beam personified. Indeed we may form a judgment both of the origin and nature of the Grecian deities by the appellation frequently given by them to their dii geniales, that of ϛοιχεια, the *elements*, ad σπερματα, the *seeds* of all things. How closely the Romans copied after the Greeks in the conceptions they entertained concerning their national gods, must appear to every one who will read with attention the second book of Cicero de Natura Deorum, which contains a complete analysis of the whole system of physical superstition established in Latium. Perhaps, after all the objections that have been urged against the hypothesis of Macrobius, "that all the gods of antiquity derive their origin from the varied operations of the sun upon the respective parts of nature," in that hypothesis will be found the best, and certainly the easiest solution of most of the intricate fables that involve the Pagan theology. It is probable that the Greeks, and it is certain, from remaining monuments, that the Romans, personified the months; very curious engravings of which may be seen in the Supplement to Montfaucon's Antiquities. Temples were dedicated and altars flamed to the genii of the twelve months in Rome; and even a feast was instituted by Augustus in honour of them, called Dodecatheos.*

It would be a tedious and almost endless task to go through all the various mythological history connected with the zodiacal asterisms. Leaving therefore the Grecian fabulists to retail uncontradicted their ingenious fictions, for the most part founded on

* Suetonius in Vita August. cap. 70.

the basis of early historical facts, equally misconceived and misapplied, I shall still adhere to the older school, and conclude this extensive chapter with collecting into one focus, the few scattered rays of information that gleam through the darkness of antiquity, relative to the first formation of the twelve signs of the zodiac among the Egyptians, Indians, and Chinese.

I have already informed the reader, that a sphere asserted by Kircher to be the ancient sphere of the Egyptian Hermes, and preserved in the museum of the Barberini family at Rome, is engraved in the second volume of the Œdipus Ægyptiacus. That sphere, if authentic, contains the most ancient Ægyptian designation of the signs of the zodiac, and being a mixture, as I conceive, of the rural calendar of Chaldea with the astronomical calendar of Egypt, I shall concisely review the asterisms engraved upon it, mark their connection with the peculiar mythology of Egypt, and afterwards point out in what respects they differ from those of India and China. The reader, who may cast even a superficial glance on that fragment, will doubtless agree with me in opinion, that if we have not at present designated upon our celestial spheres the characteristic figures used by the old Egyptians, the contractions of those figures have descended to us from them with very little variation.

Aries is designated on that sphere, not by a bestial, but by a human form; the head decorated with two large ram's horns: the name which it bears is Amun, that is, Jupiter Hammon, who was the first and greatest god of the Egyptians. By Jupiter Hammon, however, there can be little doubt they meant Ham, that son of Noah who led the first colony from Chaldea to the banks of the Nile, and who was there elevated, by the servile race over whom he reigned, to divine honours. The symbol of Jupiter among the hieroglyphics of Egypt was a ram; this zodiacal sign was probably brought into the country by the deified hero whom it was afterwards applied to symbolize, being the simple but significant asterism

on the rude sphere of a race devoted to agriculture, to denote the vernal season of the year when the pregnant females of the flock deposite their burden, and enrich the husbandman with their fleecy progeny; the only wealth of those first ages of the world. The abbreviation of this asterism consists merely of the horns of that animal ♈.

The second asterism of the Egyptian zodiac exhibits to us the Apis, or sacred Bull, the symbol of their great deity Osiris, who, understood morally, is the good principle: but physically, is the vivifying beam which emanes from the solar orb, and fertilizes Egypt after the annual inundation. His horns are the emblems of that beam, as those of the female are of the lunar glory. The true origin, however, and meaning of this asterism has been already explained; the bull was the hieroglyphic character, on the Chaldean sphere, of the season for tillage. Although the bull be more immediately symbolical of Osiris, the source of light and genial fertility, yet from an enlarged acquaintance with the history and mythology of the ancient world, we know that all the personages distinguished by their splendid talents and superior beneficence, were on that account compared to the sun, and the allegorical Osiris, the conqueror and reformer of the world, the first *cultivator of the ground*, and planter of the first vineyard, was no other in reality than Noah himself. Hence the bull became, in every æra of antiquity, the apt and peculiar symbol of that patriarch among his descendants; they formed sacred bulls of gold, fabricated with many magical and mystic rites, while the sun was in Taurus, into which they thought the soul of their deified progenitor entered; they offered sacrifice to them; they fell down and worshipped them as the Israelites did the golden calf in Horeb; and they consulted them as divine oracles. Hence, too, as before observed, the horns of the ox were ever the symbols of glory; and nearly all the great personages of antiquity, and even Moses himself, are repre-

sented as *horned*. Noah, thus exalted to the solar orb, became the father of the famous family of the Heliadæ, renowned in Greece, and the same race with the Surya-bans of India. The first abbreviation of this sign exhibited the head of the bull entire; that at present made use of, is formed solely of the outlines of that head ♉.

The GEMINI of the Egyptian sphere are Hercules and Apollo, with their arms extended to embrace each other. By Apollo joined to Hercules, I am inclined to think the Egyptians meant nothing more than the SUN in his increasing STRENGTH. The Persian designation of this portion of the zodiac, by two kids, which may be seen in Dr. Hyde, is far more applicable to agriculture, and was probably the original Chaldean denotation. That the Greeks designated Gemini by two human figures, according to the Egyptian, and not by two bestial ones, according to the Chaldean and Persian mythology, is a circumstance which exhibits additional proof that they copied that of the former on this, as on all other astronomical occasions. It would have been matter of regret, however, had they not in this case done so; since we should then have wanted the ingenious fable of Castor and Pollux, those affectionate but heroic twin-brothers, who having cleared the Archipelago of the numerous pirates who infested its shores, have ever since been considered as divinities highly friendly to mariners. The Grecian story of the alternate life and death of these two constellated heroes, is an allegory founded on the astronomical fact of the one star setting when the other rises above the horzion. The characteristic delineation of this asterism on the Indian zodiac is very remarkable, and shall be noticed presently. The abbreviated asterism is only a contraction of the Egyptian Gemini embracing, concerning which the reader will form a better judgment by consulting the engraving annexed ♊.

The CANCER of more recent spheres is designated on that of Egypt by the figure of Hermanubis or Mercury-Anubis, that is

their deified TAUT. He bears the head of the Ibis. This was the original designation; but as the sun, when he arrives at this portion of the heavens, begins to be retrograde, and to descend obliquely, the human part of the figure was after a time dropt, and to the head of the Ibis they added the tail of the crab, an animal that walks backward and obliquely. It was from the head of the Ibis thus added to the tail of the crab, that the contraction designative of Cancer was probably formed ♋. From the crab being an emblem very common among the hieroglyphics engraved on the Egyptian temples, this asterism was very probably of Egptian origin; yet must have been very early known to the Sabian devotees of Asia, from its forming, in the Mithriac mysteries, the fiery GATE of heaven, through which souls descended to earth in the siderial metempsychosis.

The LEO of the Egyptian zodiac was designated as it is at this day on our own sphere, by the lordly savage of that species in his proper form, and in the attitude of rushing forward, to mark in that sign the heat and violence of the solar ray. It has already been observed, that the resplendent beauty of the star Regulus, could scarcely fail of causing this constellation to be very early formed; but as the Lion is more abundant, and the heat more intense, in Africa than Chaldea, its origin may with greater propriety be attributed to the former than the latter country. The abbreviation presents to our view the hinder part of the animal ♌.

The great Egyptian goddess Isis is the VIRGO of their sphere, and being the inventress of the art of cultivating grain, she properly bears in her hands three ears of ripe corn. In the Persian zodiac she is the famed Urania, or Babylonian Venus; and in every country, and in most systems of mythology, the principal female divinity has been elevated to this portion of the zodiac. How remarkably also the Indian Virgo is represented will presently be noticed. The

The contraction is formed, according to Kircher, out of the three spikes which she bears, but they are not very discernible in it ♍.

The LIBRA or balance, which, like Cancer, forms so conspicuous a figure on the walls of the most ancient temples of the Thebais, is doubtless, in its origin, an Egyptian sign; it was an utensil applied to the mensuration of the waters of the inundating Nile, and is engraved in the hand of the Omphta, or person who had in charge the proper adjustment of the inundation. The human figure is erazed from our sphere; but the balance itself has descended an asterism unaltered to posterity ♎. Independently, however, of the Libra being one of their most celebrated hieroglyphics, there is another cogent reason for supposing this sign to have been originally of Egyptian invention. The Chaldaic zodiac, Mr. Costard has informed us, consisted only of eleven signs, that part of the heavens being usurped by the vast claws of the Scorpion. The same argument, I must observe, may be advanced in demonstration that the sphere of Egypt was a secondary sphere.

The malignant Typhon, the enemy of Osiris, and the evil genius of Egypt, symbolized by a poisonous animal, was exalted to the zodiac under the figure of SCORPIO. He was placed in this portion of the circle to show that the power of Osiris had declined in the heavens; that he had entered into the distant wintry signs, and therefore that his determined foe had gained a temporary ascendant; chilling the atmosphere, and checking vegetation. In fact, the greater part of the Egyptian zodiac apparently alludes to the contests of these two mythologic personages for the empire of the skies. The character exhibited to us is the envenomed barb of the Scorpion ♏.

In the following asterism of SAGITTARIUS we have a striking proof of the preceding assertion, for Sagittarius, on that zodiac and in their system, is no other than the armour-bearer of Osiris, in the

form of a centaur, darting his fiery arrows against that dreadful scorpion, that malignant and destructive Typhon, who, according to the Egyptian mythology, was engendered amidst the putrid slime and other filth left by the retiring waters of the Nile. To this mythologic birth of Typhon it is worth while to attend; since it unfolds to us no inconsiderable portion of the whole allegorical history, and at the same time unveils the real source of the famous Grecian fable, of Apollo shooting, with a thousand arrows, the serpent Python. It has been already observed, that under the signs Leo and Virgo, the Delta of Egypt was inundated. During the sun's progress through the equinoctial sign Libra, the waters of the Nile were gradually subsiding, and the unwholesome damps and pestilential vapours that arose after so vast a body of waters was withdrawn, were denominated Typhon, and symbolically represented by Scorpio. These could alone be dissipated and rendered innoxious by the beams of the sun, the mighty archer, whose rays, like burning arrows, pierced through and annihilated the mud-generated monster. The Greeks, during their frequent migrations into Egypt, learned this ingenious allegory, and as ingeniously built upon it the story of Apollo and the serpent Python. By the mere transposition of a letter, Typhon was converted into Python; or possibly Python was the original Egyptian name, since PETHEN in the Hebrew language signifies a servant; and the fabulous birth of the Grecian Python was as readily made to square in exact unison with that of the Egyptian Typhon. According to Ovid, Python was a monstrous serpent that sprang out of the slime of the deluge of Deucalion, upon whom Apollo, only another name for Osiris, in attempting to destroy, exhausted nearly the whole contents of his quiver:

Mille gravem telis, exhaustâ pene pharetrâ,
Perdidit, effuso per vulnera nigra veneno.*

* Ovidii Metam. lib. 1. 438.

That is, say the best mythologists with united voice, his rays penetrated through and through the collected clouds that overshadowed the humid sphere, and prevented its receiving the benefit of its genial warmth. This important victory occasioned the name of Pythius to be given to the victorious Apollo: hence the priestess of the Delphic temple was called Pythia; and hence came to be instituted those games called Pythici Ludi, which were intended to celebrate this victory over the dreadful serpent, as is fully evident from the following lines of the same author;

> Instituit sacros celebri certamine ludos
> Pythia perdomitæ serpentis nomine dictos.*

I have been more particular in giving the history of this asterism, because it so fully evinces that the Greeks were servile copyists of the mythology of the Egyptians. The abbreviation of this asterism is the arrow which the Centaur bears ♐.

In CAPRICORNUS we have apparently a plain Egyptian hieroglyphic, allusive at once to the course of the sun in the heavens, and emblematical of the rains and moisture which prevail at the commencement of the brumal season. It is compounded before of the parts of a goat, and terminates behind in the appearance of a fish. Macrobius has already informed us of the curious reason which induced the ancients to designate this portion of the solar path by the figure of a goat, viz. that this animal, in feeding on the springing herbage, delights to climb the mountains, and that the sun in Capricorn quits the lowest point of his course to regain the highest: those who added the fishy extremities undoubtedly meant by them to shadow out the solstitial rains that fall at this period of the year, whence, in the mysteries of Mythras, it was denominated the celestial floodgate: but as this circumstance is not agreeable to the seasons in Egypt, it is evident that the race of Mizraim must have

* Ovidii Metam. lib. 1. 446.

imported it from another country. On the sphere which we are considering, Anubis with the dog's head appears leading on the zodiacal goat; the reason of which cannot be otherwise explained than by supposing that the dog Sirius, whose heliacal rising announced the annual inundation of the Delta, was the usual symbol in Egypt to express approaching rain, which M. Savary asserts does occasionally, although in very small quantities, fall in the Lower Egypt. The abbreviated character is formed out of the union of the horns of the quadruped and the tail of the fish ♑.

Canopus, the marine god of Egypt, forms the Aquarius of their sphere. This deity was anciently represented exactly as here engraved, by a vast urn, with a human head appendaged to it: and the sign itself must, for the reason mentioned before, have originated in another country. It is very remarkable, however, that the contraction ♒, which represents a flood in motion, is one of the hieroglyphics most frequently to be met with on the ancient monuments of Egypt; a circumstance which would almost incline us to agree with Mr. Bryant, that Aquarius has reference to an object of far greater consequence in antiquity than the denotation of a particular season of the year, the general deluge. Another instance of that monstrous system adopted both by Chaldeans, Egyptians, and Hindoos, but more particularly by the Egyptians, of combining in one hieroglyphic representation the human and the brutal form, occurs in the twelfth division of their zodiac, which presents to our view Ichton, another but subordinate marine deity of Egypt, whose superior limbs are those of a man, and whose inferior are those of a fish. The whole exhibits too exact a resemblance of the Dagon of Chaldea, and the Indian Veeshnu in the Matsya Avatar, to leave a doubt in my mind of the identity of the persons, as well as of the mythology; and in fact, after displaying to us so striking an emblem of the deluge in the preceding sign, if that hypothesis be admitted, they could scarcely avoid bringing before our sight that

illustrious personage who first rose from the bosom of the subsiding waters, the great Oannes or fish-god, who appeared *twice* to mankind, and, in a form half man and half fish, instructed the Babylonians in letters and science.* The human part of the figure was in time dropt, and first one fish, and afterwards two fishes, connected by a cord, were adopted in the room of the hieroglyphic. The abbreviation is well calculated to represent the latter designation ♓.†

Thus we see that the twelve divisions of this Egyptian zodiac, which I am of opinion is replete with internal evidence of its own authenticity, are adorned among others with the eight principal deities of the country; Jupiter Ammon, represented by the ram; Osiris, by Apis, or the bull; Isis, by Virgo; Typhon, by the Scorpion; Hercules and Apollo, in Gemini; Hermanubis, or Mercury, in Cancer, because, perhaps, he conducted souls through the *fiery gate* of heaven; Pan, universal and prolific nature, in Capricorn, whose fish's tail, notwithstanding what I have urged above, for all mythology of these remote ages is uncertain, may possibly be meant as an emblem of salacity; and Canopus, in Aquarius. It is a plain system of physics, and directly alludes either to the varied power of Osiris, the sun, in the several signs, or the inundations of the Nile; not without a strong retrospective glance on a still more awful event, the inundation of the globe itself.

The zodiac of India, brought into Europe by Richard Johnson, Esq. an obliging patron of this work, is a very curious production, on account, principally, of the remarkable designation of the planets, which are pourtrayed on it riding upon various animals, alluding to their rapid or tedious revolutions in the heavens. The asterisms of that zodiac, however, do not materially vary in their allusion from the other Oriental zodiacs. The most remarkable deviation is that of Virgo, who stands on a boat in water, holding in one

* See Syncelli Chronographia, p. 28 and 29, who copies Berosus and Abydenus.

† Œdipus Ægyptiacus, tom. 2. p. 167.

hand a lamp, and in the other an ear of rice-corn; and that of Gemini, a vernal sign, for the designations themselves vary in different copies, sometimes denoted by a man and woman embracing in the vernal season of love, sometimes, as on the Persian sphere, by two wanton kids. Among the planets, we see the Moon pictured riding on an antelope; Mercury upon an eagle; Mars upon a war-horse; Venus upon a camel; Jupiter upon a boar; and Saturn upon the slow elephant, the emblem of his tedious revolution. The Sun himself is twice designated, first, riding on a refulgent lion; and, secondly, like Osiris on ancient medallions, seated on a car with a whip, and driving seven horses through the cerulean fields.

The Chinese zodiac, according to Kempfer,* is also divided into twelve signs, distinguished by as many figures, all bestial, and some of them very singular and eccentric designations, viz. 1. the mouse; 2. the ox, or cow; 3. the tiger; 4. the hare; 5. the dragon; 6. the serpent; 7. the horse; 8. the sheep; 9. the monkey; 10. the cock, or hen; 11. the dog; 12. the boar. Of these signs only the second and the eighth have any resemblance to those of the other Oriental zodiacs. The hare, however, and the dragon, the serpent, the horse, and the dog, are all to be met with among the forty-eight constellations engraved on the most ancient sphere; the cock, or hen, has probably relation to the old Babylonian asterism of the hen and chickens; the monkey, or ape of Hanumat, is a celebrated deity in the Indian mythology; and the boar has doubtless some allusion to the incarnate Veeshnu of that country in the third, or Vara Avatar.

* Kempfer's Japan, p. 145.

CHAPTER X.

The more conspicuous of the remaining Constellations examined; and the greater Part of them proved to have Reference to the Events of the first Ages of the World; and nearly all to a more ancient Mythology than that of Greece—The Astronomical Investigation concluded—The Result of the whole Survey stated; viz. that Astronomy, so far from subverting, gives a decided Support to the Truth of the MOSAIC RECORDS, *and consequently to* CHRISTIANITY.

IN forming our judgment concerning the original formation of the constellations, we should ever consider the local history and prevailing habits of the nations of the ancient world that first designated them. This will be the best guide for assigning them to their proper inventors and fabricators. Thus all that are distinguished by a remarkable hieroglyphical cast, I am for referring to the Egyptians; as the Draco, or polar dragon, with its hairy head, like a bird of prey; Capricorn, with the tail of a fish; and the triangle, on account of their great attention to geometrical pursuits. Those that in a peculiar manner relate to the first great events of the post-diluvian world, and to agriculture, I should incline to conjecture were of Chaldean origin; as the sacrificer, the altar, and the beast sacrificed, the ram, the bull, the kids, or Persian Gemini. Those that more immediately concern navigation, to the Phœnicians, as the Ursa Minor, in which is the pole-star, and the ship, or Argo, as the Greeks called it. Considered in this point of view, the constellations will in some degree explain themselves; and since it is probable that the philosophers of every nation under heaven elevated to the sky their favourite sovereigns and greatest

warriors, we must not wonder at the variety of the characters, or the occasional incongruity of the images. There were, however, certain grand and general features of primeval history, which appear prominent in all their systems of astronomical mythology. Picturesque emblems, relative to those grand and interesting events, the fall of man, and the universal deluge; and striking representations of the principal events which distinguished the life of the pious Noah, and those of the less virtuous chiefs of the great patriarchal family, especially the martial heroes of the Balic line, under multifold denominations, usurp a considerable portion of the delineations on every sphere. This circumstance it will be necessary for the reader to bear in continual remembrance during the perusal of this chapter, lest I should be condemned for bending every thing to a darling hypothesis, and compelling the constellations to bear evidence to assertions not sufficiently warranted by history. As long, however, as the planets shall perform their revolutions, and the fixed stars shall give their light, the truth of the general positions which I have here ventured to lay down, will be found to be established. As the annals of Oriental nations, long buried in obscurity, continue to be explored, they will derive from the research fresh vigour as well as lustre; and when accumulated disappointments, added to intense application, have sunk into the grave this emaciated frame, posterity will do justice to my labours, and future astronomers applaud my zeal.

Concerning an ante-diluvian sphere we may conjecture much, but can know nothing certain. That such a sphere existed, is a circumstance that has been rendered extremely probable by various considerations, suggested in the preceding chapters. The first most awful and calamitous event that ever befell mankind, the fall from original purity, was doubtless commemorated upon that sphere by some allegorical representation, and I am persuaded that, if we attentively examine the oldest constellations, we shall find some

remnant of that, as well as other ancient traditional doctrines. The universal alarm and terror which the great celestial Dragon diffused over the minds of the inhabitants of the Asiatic empires, and the perpetual allusions to the baleful influence shed by that constellation, occurring in all their systems of astronomical mythology, strongly incline me to adhere to the opinion before intimated, that by this most ancient and formidable asterism, the ancients in general meant to designate the EVIL PRINCIPLE in nature. I must again beg leave to express my firm belief, that the Grecian fable, of this being the very dragon or serpent, for draco and serpens refer to the same animal, which, vomiting flames, and having a hundred heads, as well as *voices*, guarded the golden apples in the garden of the Hesperides, is in fact nothing more than a mutilation of the traditional history of the fall, or at least of the sublime allegory under which it was veiled in all the histories of the ancient world, but more particularly of India, where it is recorded in the most ancient Veda.* It is not a little remarkable, too, that this dragon is said, in the same fable, to have been the monstrous progeny of Typhon, the particular and acknowledged κακοδαιμων of the Egyptians. Typhon, we have seen, was the Scorpion of their zodiac, whose breath shed pestilence and death, and who was engaged in everlasting wars with the beneficent Osiris; in which piece of Memphite history we have an additional proof of the wide diffusion throughout the East of that primeval doctrine. In reality, for the reasons before assigned, I mean the singular hieroglyphic form of the animal, accurately preserved for us from the designs of very remote antiquity, in the sculptures and paintings of the Chinese, who de Guignes insists were a colony of emigrated Egyptians, as well as by Bayer and Hyginus in their astronomical dissertations, I am for referring the origin of this constellation to the philosophic

* So Sir William Jones asserts, when commenting on Mr. Wilford's Essay relative to Egypt and the Nile, in Asiat. Research, vol. III. p. 431.

race who settled in Egypt, and who possibly might have obtained the outlines of it from their ante-diluvian ancestors.

If it should appear to the reader incongruous and absurd that the Egyptians, or any other nation, should have fixed upon two distinct constellations to be symbolical of the same mythological history, which, after all, is but the shadow and outline of the true, I must acquaint him, that this almost universal practice in the ancient world arose from the slow but continual revolution of the celestial bodies, during their imagined annus magnus, and the consequent change of their situation in the heavens. This must be evident to any body who considers, what every novice in astronomy well knows, that owing to the precession of the equinoxes, after the rate of 72 years to a degree, a total alteration has taken place through the signs of the ecliptic; since those stars which formerly were in Aries, have now got into Taurus, and those of Taurus into Gemini, so that the Grecian and Roman husbandman would not now be able to regulate his conduct in regard to the concerns of agriculture, according to the rules laid down by Hesiod and Virgil. And here it is proper I should remind the reader, that, according to this calculation, a complete revolution of the zodiac takes place in exactly 25,920 years; the ancients, however, supposed the precession to be after the rate of a degree in 100 years, and thence formed their grand apokatastasis of 36,000 years, upon which they raised the structure of their extravagant chronology. Thus in respect to both the Dragon and Scorpio having been at different periods considered as symbols of the evil principle, which they doubtless were, this arose from their relative situation in the sphere. The Scorpion was at first the emblem of Typhon; for the Scorpion, a dreary autumnal sign, led on the cold unfruitful months, when the powers of vegetation seemed to be suspended, and nature to lie in a state of temporary death; afterwards, when the fatal influences shed by the polar dragon, in some particular aspects of

that constellation upon men, animals, and vegetables, were imagined to be discovered, the name of the destroyer, Typhon, was conferred upon it: and almost every nation of Asia, in conformity with the widely diffused principles of the prevailing physical theology, had its benevolent and malignant star; its Osiris and Typhon; its preserver Mithra, and its destructive Ahriman. Even Lucifer himself is spoken of in Scripture as the "*star of the morning;*" but fallen from his glory.

Some of the Greek mythologists have related another fable relative to the celestial Draco, which probably is also a perversion of a part of the primitive tradition. They affirm, that in the war of the Titans, that is, the good and evil dæmons contending for the sovereignty of our globe, this mighty dragon was introduced into the line of battle, and *opposed to Minerva;* that goddess, however, possessing far more resolution than fell to the lot of our great female progenitor, the allegorical Minerva, when assailed by the serpent, repelled his assaults, hurled him, contorted as he was, to the skies, and fixed him to the axis of the world. There is another remarkable circumstance in the mythological portrait of this story upon the sphere, and that is the position of the foot of Hercules, who, according to other fabulists, slew this dragon very near its head, and as if in the act to crush it; irresistibly impressing the mind of the Christian astronomer as a perversion, arising from misconception of some tradition founded on that promise in Genesis, that *the seed of the woman should bruise the head of the serpent.* There is every reason to conjecture that by the garden of the Hesperides, the ancients understood a terrestrial paradise, placed, as they thought, and as the name *Hesperides* implies, on the western extremities of the world; a beautiful and abundant region, the abode of eternal spring, and which is thought by most modern mythologists to have been the Canary, or Fortunate Islands, first discovered by the Phœnician navigators, and probably spoken of on their

return to their native country with such rapture, as might give birth to the idea. I ought not to omit mentioning, that some writers from the Hebrew word SARAPH, signifying at once a serpent and a seraph, have conceived the fable of the dragon vomiting flames, and guarding the golden apples of the Hesperides, to be founded upon the circumstance related in the same divine book, that on the expulsion of Adam from Paradise, God placed a flaming band of cherubim, or seraphim, for they seem to be the same order of celestial beings, at the eastern gate, whose bodies moving every way, and glittering like the vibrations of a *flaming sword*, guarded the approach to that lovely but forbidden retreat. Dragons, fiery or vomiting flames, are always ready, upon occasions like these, to execute similar offices of guardian vigilance in the Pagan theology; though sometimes the task is assigned to brazen-footed *bulls*, which may possibly be allusive to the name of cherubim, (the word CHERUB signifying to plough, and we know that the cherubim are generally designated as oxen) bulls equally breathing fire; as, for instance, those which guarded the golden fleece of Jason; concerning whom, Ovid, lib. 7, 104.

> Ecce adamanteis Vulcanum naribus efflant
> Æripides tauri————

This doctrine of an original defect, and a malignant serpent, the bane of man, is remarkably manifested in the Persian system of astronomical theology, for to Serpentarius itself, a very considerable constellation of the northern hemisphere, they elevated their evil genius, or Ahriman; nor had they a much better opinion of the polar dragon, for Dr. Hyde expressly informs us, they denominated that asterism AZACHA; serpens, qui homines ac bestias devorat." In the Indian Antiquities I have presented the reader with an engraving of the two principles of Persia, the good and the evil, under the form of two vast serpents, contending for the mundane egg.

* Vide Hyde's Ulug Beg, p. 13.

Ahriman is there represented by the evil serpent; and in thus representing him, the original designer doubtless followed the popular and established opinion of the Persian nation. Serpentarius, or Serpens, as we may denominate it, when leaving out the human figure of Ophiucus, which grasps the enormous animal, is one of the forty-eight old constellations, and a very near neighbour of the Scorpion. In making it the residence of their evil genius, the Persians were undoubtedly guided by the same train of physical and moral ideas which the Egyptians entertained, relative to the latter sign; as, in the first place, that it was a constellation of an equally ill omen, being to them a dismal autumnal asterism, bringing in its train diseases and death; and that therefore, in the second place, it was a proper emblem of the serpent that betrayed our great ancestors into the fatal delusion which ruined themselves and their posterity.

In short, with the remembrance of this unhappy event the mind of the whole primeval world was deeply and sorrowfully impressed: their detestation of the grand deluder, under this name of the evil principle, broke forth on every occasion upon which it could be signally displayed. Now designated under the form of a dragon vomiting forth flames, and now under that of a serpent of stupendous length and horrible contortions, he was considered as the eternal spring of evil, and the fomenter of mischief; the cause of whatever is noxious in the course of nature, and calamitous in the annals of mankind. M. Volney, misapplying his great talents, has borrowed arguments from Dupuis and Bailli to demonstrate that the Christian religion is, like the base fabrics of pagan superstition, founded upon astronomical mythology; he allows Ahriman to be meant by the serpent of the skies, and in the following passage quotes Sir John Chardin, to prove that this sidereal serpent is the very serpent of Eve. "The Persians," says Chardin, "call the constellation of the serpent Ophiucus, the serpent of Eve: and

this serpent Ophiucus, or Ophioneus, plays a similar part in the theology of the Phœnicians, for Pherecydes their disciple, and the master of Pythagoras, said that Ophioneus Serpentinus had been *chief of the rebels against Jupiter*."* So far the account of Mr. Volney and the narration of these pages are coincident; but in other points our systems differ as wide as earth is from heaven. He insists that the doctrine of the fall of man is merely the corruption of an astronomical truth; whereas, on the contrary, I contend that astronomical fables have been grafted on the doctrine of the fall, and the uniformity of those fables, and their allusion and application in the most distant empires and nations evince that I am right. With respect to India in particular, I insist, in my turn, that the fall of man from a more happy and innocent state is by no means there conceived to be an astronomical or mythological tale, but a fact universally and unequivocally acknowledged from one end of the continent to the other; from Caucasus to the cape of Comorin. It is, in fact, the basis of the four YUGS; and the pillar on which the metempsychosis rests: it is a perpetual incentive to the voluntary infliction of penances the most horrible to be conceived or suffered; penances which, I have observed in my account of them, make human reason stagger, and human nature shudder.

The ground is so uncertain, the period is so remote, and the facts arising for investigation, from that remoteness, necessarily admit of so little collateral proof, that after having thus cursorily proved the astronomical theology of the three great nations mentioned, not to be entirely destitute of allusions to the grand events which must have excited so peculiar an interest among the *ante-diluvian* race, I must beg leave to quit a field of disquisition at once so unexplored, and so unproductive; and therefore following the course of this extensive and distant inquiry, I shall now proceed to consider

* See Volney's "Ruins," p. 290.

if an equally interesting event, the grand deluge itself, gave rise to no allegorical delineations on the sphere of ancient astronomy. In this inquiry we shall no longer travel on in suspense and darkness; but a brilliant and permanent light, reflected from the mirror of truth and history, will at once illumine our path, and elucidate our subject.

The two grand objects that for a long time engaged, or rather absorbed, the attention of the renovated and grateful race of man, were the stupendous events of the deluge, and the miraculous preservation of the patriarchal family in the ark. The memorials of those events in the ancient world were innumerable.' They are visible in all the sacred rites of their religion, as well as in most of the solemn festivals instituted by the policy of their legislators. They were sculptured aloft in their temples, and stamped upon their coins. Such an astonishing body of evidence of this nature has been brought together and displayed, in the pages of Mr. Bryant, that any minute observations on that head, except such as relate to astronomy, from my pen, at least for the present, would be impertinent and unnecessary. Let infidelity faithfully peruse those pages, and hide her abashed front in eternal oblivion.

On the recording tablet of the skies, that is, on the celestial sphere, I must repeat it, symbols of those grand events, and of the most conspicuous personages of the first great family, were very early engraved. All navigators, in particular, retained the liveliest impressions relative to the great deluge; and the Phœnicians early exploring the southern world, under those impressions formed the constellation of Argo, one of the oldest, probably, of the forty-eight great constellations into which the ancients divided the visible heavens. It occupies a very ample space in the southern hemisphere; though it is not remarkable for many very large or luminous stars. The description of it by Hyginus, is very deserving of notice. " Hæc est navis Argo, quam Minerva in sideralem circulum

retulit *ob hoc quod ab se esset ædificata, ac primum in pelagus deducta.*"* This is the ship Argo, which Minerva numbered among the constellations of the sphere, on this account, that it was built by her own direction, and was the first vessel launched upon the ocean. Minerva is in this place to be considered only as a personification of the HEAVENLY WISDOM. Mr. Bryant, treating concerning this constellation, very justly observes, that though it had the name of Argo, and was said to be placed in the heavens as a memorial of the Argonautic expedition, yet being scarcely visible in any part of Greece, it could not be allusive to the history of that people, who were so fond of arrogating to themselves the history and mythology of all other nations; nor could the sphere in which it is placed, and of which it engrosses so conspicuous a portion, originally be the work of a Grecian. It must, therefore, have been assigned its station there by some more ancient people, and allude to a different event; that memorable event, of which the whole fable of the Argonautic expedition was only the mutilated narrative. Of the name Canopus, by which the Egyptians distinguished the brilliant star of the first magnitude, on the rudder of Argo, I have already offered one etymological derivation, viz. from Cneph, or Canupha, since they thought in the star Canopus, a star which was seen by them just skirting the southern horizon, resided the guardian genius of the waters, and hence the Greeks formed their Neptune, or god of the ocean. If, however, the reader should reject this etymology of Canopus, who was the Egyptian god of mariners, and had a superb temple erected to his honour in that country, he may, with Athanasius Kircher, deduce it from CNOUB, a Coptic word signifying *gold*: a name well adapted to express the peculiar lustre of that refulgent star. I am enabled also by Sir William Jones, to produce the Sanscrit appellative of Argo, which is Agastya; and Agastya was a most ancient and venerable Brahmin, whose soul was tran-

* See Hyginus, Fab. xiv. p. 55.

slated to this bright and beautiful constellation. This is one of the few constellations in the southern hemisphere, of which he has not yet learned the Sanscrit name, whence I should infer, that Agastya is an object to the Indians of great notoriety and more general regard. A circumstance, however, far more important than the mere name of this constellation arrested my attention, in perusing the dissertation of the president upon the Antiquity of the Indian Solar Zodiac, and in examining the figures engraved on the illustrative table annexed. The Indians seem to have marked on that zodiac itself a striking symbol of the deluge; for as we have before observed, the figure in the sign Virgo is represented standing in a boat in water, and holding in one hand a lamp; which, while it reminds us of the old Egyptian Isis, or if the reader pleases, of Osiris in the Scyphus, so often alluded to before, and of the Eleusinian mysteries, performed by night,* decisively points to that awful event which was shadowed out by the rites of that personage, and in the celebration of those mysteries. The Sanscrit name of Virgo is Canya.† In the Ancient Oriental Astronomy, as given by Ulug Beg, and translated from the original Persic into Latin, with an ample and instructive commentary by Dr. Hyde, it is simply called Stella Navis, the constellation of the ship.‡ In fact, Argo was the sacred ship of Osiris, and no other than the ark. For this reason it was, that one of the brightest stars in the southern hemisphere is placed upon the rudder; plainly denoting, that it was under the guidance of a celestial pilot.

It is decidedly in favour of that hypothesis which I am labouring

* Whether the word SOHAR, signifying to shine, to give light, be properly rendered window, is a point which has been (in my opinion absurdly) disputed. Some Jewish paraphrasts translate it, a precious stone, or carbuncle of great magnitude, with which they contend the ark was illuminated.

† See the Dissertation on the Antiquity of the Indian Zodiac, in the Asiatic Researches, vol. II. p. 292.

‡ See Tabula Stellarum Fixarum Ulug Beighii, p. 128. Edit. Thomas Hyde, Ozonii. 1717.

to support, viz. that the symbols engraved on the celestial sphere were for the most part illustrative of the history, or emblematical of the heroic personages, who flourished in the ancient world, that after finding the ship, or sacrid baris, as the Egyptians called the ark of Osiris, among the forty-eight most ancient constellations we discover that of Corvus, or the raven, to which less ancient astronomers have added Columba Noachi, or the dove of Noah, with a branch of olive in its mouth. The addition of the latter was probably made under the immediate force of such impressions as those which have induced me to engage in this astronomical detail; I mean, that the constellations of the southern hemisphere were allusive, not so much to the Argonautic, as to the Noachic voyage. "And he sent forth a raven, which went forth to and fro, until the waters were dried up from off the earth." If the reader will advert to the figures of the celestial sphere, as those figures are beautifully engraved in Flamstead's Atlas Celestis, to which throughout I constantly refer, he will find the raven so portrayed as in some degree to illustrate this passage. It is drawn standing on the back of the hydra, with its head bent down, and one of its wings raised, as if prepared, but yet reluctant to fly. This extraordinary position of a raven on the hinder part of the extended and portentous figure, the hydra, which the Arabs, according to Hyde, denominate Al-shugja, serpens tenuis ac longa, together with a symbol which forms another of the forty-eight old asterisms, called Crater, on the former part of its back, exhibits altogether so singular an assemblage of incongruous objects, as can alone be accounted for by supposing the whole to be only a copy of some Chaldean or Egyptian hieroglyphic, originally allusive to the deluge, and the exploring raven of Noah. For what reason the Crater should form a part of this most singular prodigy among the heavenly host, or what is meant, I was long at a loss to determine, till presuming that this mighty serpent was an Egyptian symbol, I turned to the page of Athanasius

Kircher, where I found a particular chapter on the Ramessæan Obelisk,* which gives an account, at least more satisfactory than any to be met with in other authors, of this obscure asterism. He says, that the Egyptians by this symbol shadowed out either the Crater beneficus Osiridis, that is, of the sun, from whose overflowing fountain of light a thousand blessings are daily distributed among mankind; or else the hallowed vase, whence the patriarch Noah, the first planter of the vineyard, poured libations of generous wine to that Deity qui sacrificiis placandus est. The Persians, according to Hyde on this constellation, call the Crater, poculum magnum et amplum, a great and capacious cup; and, indeed, on the sphere it makes a considerable and beautiful object, being richly ornamented, and is not inelegantly drawn with an embroidered rim, and sculptured handles; from the top of which issue the bodies and heads of serpents, that universal symbol of divinity, and ornament of all sacred utensils, both in Egypt and India.

In perusing the Heetopades, or Amicable Instructions, translated from the Sanscrit, I was throughout struck with the frequent introduction, in those fables, of the raven, or crow, as an augural bird, but of malignant omen. The raven, indeed, as well in India as in every other part of the world, ever since the ill tidings brought by the bird which Noah sent forth from the ark, seems to have been considered as a sacred bird, but still of bad presage; while the peaceful dove, returning with the olive-branch, and bringing intelligence that the waters of the deep were assuaged, has, on the contrary, ever been regarded in most countries as a sacred bird of a happy omen, and caressed equally as the favourite of god and man. Mr. Bryant remarks, that the season anciently esteemed most favourable for setting sail, was at the heliacal rising of the seven stars, near the head of Taurus; that they were, in consequence of it, called Peleiades, or the doves; and that it was at the time of

* Vide Athanasii Kircheri Œdipus Ægyptiacus, tom. III. p. 199. edit. Romæ, 1654.

their appearance that the Argonauts were supposed to have set out upon their expedition.* Thus in reality, without the addition of the more modern constellation, called Columba Noachi, both the dove and the raven of Noah have, for an immemorial period, enjoyed an elevated station in the skies, while on earth they have conferred their names upon the most sacred characters. According to Hesychius, the priestesses who uttered the oracular responses at Dodona, were called Peleiai, or Columbæ; while the priests of Egypt are, by Curtius, denominated Corvi, and by Plutarch, κορακες.

If the whole of what I have thus offered on this singular siderial hieroglyphic, the stars displayed on which might have been full as clearly pointed out by other objects, for they could not all be included were it not for the convolutions of the serpent's body, should appear far-fetched and improbable, my hypothesis still will not want support, from the consideration of the symbols by which the remaining constellations of the southern hemisphere are denoted. Indeed I cannot avoid remarking, that the constellations of this hemisphere, which have always been supposed to be particularly allusive to the Argonautic voyage, crowded as it is with aquatic animals, and marine objects, remarkably illustrate my original position. The dignity of the historic style I would not wish to degrade, especially upon so solemn a subject; but surely, contemplated in any possible point of view, the southern hemisphere exhibits the aspect of a watery heaven.

The first act of the pious patriarch, after descending from the ark, was to make a grateful oblation to his heavenly deliverer. "And Noah builded an altar unto the Lord, and took of every clean beast, and of every clean fowl, and offered burnt-offerings, on the altar; and the Lord smelled a sweet savour." Let the reader now turn to the figures engraved in the Atlas Celestis, or any good

* Analysis, vol. II. p. 285.

celestial globe, and he will there find, among the southern constellations, that Altar, with the fire of the first grand sacrifice made by man after the deluge, ascending in a vast body of flame and smoke, and almost obscuring the stars it was intended to denote the situation of in the heavens. It was one of the earliest formed of the forty-eight constellations before mentioned, and no other reason for its being inserted among the constellations was ever given, beside the ridiculous story forged by the Greeks, that it was the fabrication of the Cyclops, and the altar on which the gods swore to avenge themselves upon their enemies, the rebel race of the Titans. The Indians have recorded this solemn fact in their lunar zodiac; for we have seen that an oblation to the gods fills up the seventeenth division on the curious print of that zodiac, engraved in the second volume of the Asiatic Researches.* Having exhibited the altar, on a more accurate examination of the figures on the sphere, we may possibly find both the Sacrificer and the Victim.

As a ship, with its sails expanded, was represented in the hieroglyphics of Egypt, by a winged serpent, or dragon, so the strange figure which the Centaur exhibits on the celestial sphere, as well as the singular relation which the page of history gives of that fabulous character, possibly owed their origin to the same obscure but fruitful source. It would lead me too far out of the way, into the wildest regions of ancient mythology, were I to enumerate a fourth part of what is recorded of the wonderful race to whom this title was given: but I cannot help remarking, that many of the circumstances thus recorded, are strikingly applicable to Noah and his family. Whatever the fabling Greeks might assert in regard to this asterism, I repeat it, that this compound figure bears every appearance of having originally been an Egyptian hieroglyphic. It is not a little remarkable, however, that even the Greeks describe the

* Consult the engraving, vol. II. p. 294.

original Centaur as begotten upon a cloud : and it will be remembered, that the same kind of birth was assigned to Fohi, the undoubted Noah of China, whose mother is said to have conceived him encompassed with a rain-bow. But lest this mythologic birth should be thought too base for so upright a man as Noah, let us inquire what the more authentic page of history itself records, and explore the plains of Thessaly for that dauntless race, who first curbed the fury of the raging bull, whence the word Centaur is derived, and made that animal subservient to the use of man. We shall find this character to be peculiarly applicable to him who first instructed the human race in the knowledge of agriculture, and who, upon that account, was universally represented in the ancient world by the symbol of an ox.

It has been repeatedly observed, and in a great measure demonstrated, that whatsoever the Greeks have vaunted of the ship Argo, and the Argonauts, can only, with any shadow of truth, be referred to the great patriarch and his companions in the first navigated vessel. Sir Isaac Newton has endeavoured to establish a new system of chronology upon what he found in Clemens, and other ancient authors, relative to Chiron's forming the Grecian sphere, for the use of the Argonauts ; and the situation, noticed in a former page, which he at that period assigned the colures. His hypothesis has been combated with great force of argument, by Dr. Rutherforth, in his System of Natural Philosopy. He incontrovertibly proves, that the signs delineated on the Grecian sphere, however applied by the Greeks to their own history, were allusive to some more ancient event, and that they could not possibly be drawn for the use of the Argonauts. The substance of what Dr. Rutherforth has urged upon this topic, has been stated in a preceding page ; but the whole of his argument, is so solid, and is so highly illustrative of the subject under discussion, that the reader will doubtless pardon my inserting his words at length in this place.

" Pagasæ, from whence the Argonauts sailed, is in about 39°, and Colchi, to which they were sailing, is in about 45° north latitude; the star Canopus of the first magnitude, marked *a* by Bayer, in the constellation Argo, is only 37° from the south pole ; and a great part of this constellation is still nearer to the south pole. Therefore this principal star, and great part of the constellation Argo, could not be seen, either in the place from whence the Argonauts set out, or in the place to which they were sailing. Now the ship was the first of its kind, and was a principal thing in the expedition ; which makes it very unlikely that Chiron would choose to call a set of stars by the name Argo, most of which were invisible to the Argonauts. If he had delineated a sphere for their use, he would have chosen to call some other constellation by this name : most likely he would have given the name to some constellation in the zodiac; however, certainly to one that was visible to the Argonauts, and not to one which was so far to the south, that the principal star in it could not be seen by them, either when they set out, or when they came to the end of their voyage."* Let us now attend to the passage itself of Clemens, upon which Newton founded the hypothesis thus successfully attacked by Dr. Rutherforth. The following is a literal translation of it. " Chiron was the first that taught mankind to live according to justice, by shewing them the nature and obligations of an oath; sacrifices of joy and thanksgiving; and the figures of the heavens, *σχηματα Ολυμπȣ*."† Of the first great legislator after the deluge, the probable author of those Indian institutes of such unfathomable antiquity, that they are said to have been written many millions of years ago, and attributed to Menu, which seems only to be the Indian name of that pious sacrificer, who, immediately after he had descended from the ark, with an

* Rutherforth's System of Natural Philosophy, vol. II. p. 850. Edit. quarto Cambridge, 1748.

† Stromata, lib. i. p. 15.

heart overflowing with grateful rapture, " builded an altar to the Lord;" of the earliest and most skilful post-diluvian cultivator of the ground, and planter of the first vineyard, to whom a knowledge of the revolving seasons, and a diligent observation of the aspect of the heavens, and the revolution of the heavenly bodies, were so necessary; can any description possibly be more strikingly picturesque, more accurately faithful, or more pointedly illustrative?

Pliny, who in the 56th chapter of the 7th book of his Natural History, one of the most curious and learned chapters in his whole work, has enumerated the names of the ancient inventors of all the arts and sciences, as well as specified the particular arts discovered by each, writes thus of Chiron: " Chiron, the son of Saturn and Phyllira, was the inventor of the botanical and medical art." Every person acquainted with Pagan mythology, knows that Saturn, or Chronos, the Cali of India, was a personification of Time; and that the son of Time, like the son of the Sun, was only an expression under which they concealed their ignorance of his real genealogy. The latter part of this description is peculiarly applicable to him, who being the first cultivator of the ground after the deluge, must be well acquainted with herbs and their several virtues; especially, if we add to this knowledge, that which he possibly might have acquired from his ante-diluvian ancestors. It should not here be omitted, that there is an ancient Indian sage, of the name of Dhanwantaree, highly celebrated in all Sanscrit writings for his profound medical knowledge, and who mightily resembles Chiron in this capacity. We read, in the Heetopades, " when life hath taken its departure, though Dhanwantaree be the phsyician, what can he do."* The birth of this great Hindoo physician is not undeserving of notice; for according both to Sir W. Jones, and Mr. Wilkins, he was originally produced from the foam of the churned ocean, having been one of the precious things obtained

* Heetopades, p. 230.

during the agitation of the waters, when the gods violently agitated that ocean with the stupendous mountain Mandar.* The whole of this romantic story, of the gods churning the ocean, is probably allusive to the general deluge; as by the battle of the Soors and Assoors, when nature was convulsed by the conflict, is doubtless only meant the Titanic history of the earth-born giants of the impious line of Ham, contending with the virtuous race of Shem for the sovereignty of the infant world, after the overthrow of Babel.

Let us now consider among what constellations Centaurus is situated, and in the performance of what act he is delineated. If the reader will cast his eye upon the Atlas Celestis, he will perceive that the Centaur is placed near the Hydra, and IMMEDIATELY ABOVE THE ALTAR, with a beast seized by the fore paw, which all the commentators are unanimous, and which his attitude and slaughtering weapon evince, HE IS ABOUT TO SACRIFICE ON THAT ALTAR. The beast thus about to be sacrificed, is improperly denominated Lupus, since in Ptolemy it is simply called Θηρὶȣ ασεϱισμος, the asterism of Fera, the wild beast; and this, according to Dr. Hyde, is the Arabian name of the constellation. Neither of these names, indeed, exactly answers to the relation of Scripture, which expressly asserts that, " Noah took of every clean beast, and of every clean fowl, and offered burnt-offerings on the altar." But the name which the Greek and Arabian astronomers have assigned to it is of little consequence. The animal, as delineated on the sphere, is no more like any wild beast with which we are acquainted, than it is with any tame one; and, from its forming another of the forty-eight ancient constellations, may be of Chaldaic origin, and of a race extinct. That the Centaur and the beast about to be sacrificed were really of hieroglyphic origin, and it was under an hieroglyphic veil that all history was anciently shadowed out, there

* Geeta, p. 148; and Asiat. Research, vol. I. p. 350.

is this strong evidence, that together they anciently formed but one constellation. I should be sorry to injure the cause which I am thus anxiously labouring to defend, by overstraining those points which appear to me demonstrative of the superior excellence and prior antiquity of the Mosaic records; but surely an author writing in a Christian country, has at least full as good a right to apply these striking circumstances, so strongly corroborative of, and so forcibly illustrated by what is revealed in the ancient Scriptures, as any Grecian or Roman fabulist of old had to apply and appropriate them to their own romantic and visionary legends. Although many of the constellations undoubtedly were Egyptian hieroglyphics, and allusive to Egyptian history, yet we must ever bear in remembrance, that the race of Mizraim were, after all, only a colony of emigrated Chaldeans.

The hieroglyphic form of the Hydra of the southern hemisphere proves it to have been the invention of the Egyptian astronomers, while its name derived from υδωρ, water, and its manifold contortions should seem to mark it for the winding current of the Nile. The vast space over which this constellation is diffused in the southern portion of the sphere, inclines me to think they intended by the Hydra to mark the river in the time of its inundation; or possibly, from the symbols connected with it, the raven and the poculum beneficum Osiridis, the grand deluge itself, typified by the river in that state; for in fact, the most ancient name of the Nile was ωκεανος, the ocean.

Dr. Hyde on Ulug Beg justly remarks, that this constellation is called in Ptolemy, not Eridanus, but only ποταμȣ αςερισμος, the *asterism of the river* which probably was its more ancient and genuine appellation. In the same manner, the Argo of the Greeks is by Ulug Beg only denominated THE SHIP; and, as I have before remarked, the royal astronomer in doing this probably followed the detail of some ancient Persian tables, or the designation of

some ancient Persian sphere.* Dr. Hyde adds, it is by some writers called ποταμος Ωριωνος, *the river of Orion*; for in fact, if the reader will advert to the celestial sphere, he will observe that the head of this river commences at the foot of Orion. Now since we have proved Orion to be no other than Nimrod, this is a convincing proof that the Euphrates was the river first exalted to an asterism, and perhaps it might have been designated as flowing from his foot, either because he first explored its source, embanked the river, or made it navigable. The Indians, afterwards borrowing the Chaldean sphere, converted the Euphrates into the Ganges; for it is surely not a little remarkable, that according to the Hindoo mythologists cited in my Geographical Account of India, the Ganges is said to flow from the foot of Veeshnu; an irrefragable proof that the Ganges is the Grecian Eridanus, and that the mythology originally belonged to the Greater, and not to the Lesser Asia.† There is in M. D'Ancarville's third volume a curious mythologic engraving of the course of the Ganges, in which the river is drawn exactly consonant to the conception of the Brahmins, and flowing from the foot of Veeshnu. It was the variety of these coincident circumstances in their respective systems of astronomical mythology, that gave birth to the idea first formed in my mind of taking this comparative survey of them.

That comparison has now been made in a very ample, and, I trust, satisfactory manner; but to put the matter beyond all possible doubt, and to demonstrate that the Grecian was a borrowed sphere, the characteristic designations on which had allusion to a more ancient race in the records of the world, I shall conclude this subject by presenting the reader with the following important information, obtained in India by Mr. Wilford, whose elaborate Essay on Egypt and the Countries adjacent to the Nile, inserted in

* Ulug Beg's Fixed Stars, p. 48.

† See the Geographical Dissertation in the Ind. Antiq. vol. I. p. 152.

the third volume of the Asiatic Researches, has just come to my hand, and will be of very great utility in the course of the subsequent historical investigations. After declaring that the Grecian fable of Cepheus and Cassiopeia is to be found in the most ancient Sanscrit books, under the resembling appellations of CAPEYA and CASYAPA, and that the legend of PERSEUS and ANDROMEDA is also recorded in the same books under those of PARASICA and ANTARMADA, the principal facts in each fable intimately coinciding, he adduces the following remarkable testimony in proof of his preceding assertions.

"In order to prove by every species of evidence, the *identity* of the Grecian and Indian fables, I one night requested my pandeet, who is a learned astronomer, to shew me, among the stars, the constellation Antarmada; and he instantly pointed to Andromeda, which I had taken care not to shew him first as an asterism with which I was acquainted; he afterwards brought me a very rare and curious book in Sanscrit, (the language of India two thousand five hundred years ago) with a distinct chapter on the *Upanacshatras*, or constellations out of the zodiac; and containing delineations of Capeya, adorned, as on our sphere, with a radiated Ethiopian crown, and bearing a sceptre; of Casyapi seated with a lotos-flower in her hand; of Antarmada chained, with the fish near her; and of Parasica holding the head of a monster which he had slain in battle dropping blood, with *snakes* instead of *hair*, according to the explanations given in that book."*

The result of this whole inquiry is, that astronomy, so far from invalidating, decidedly corroborates the MOSAIC HISTORY in all its leading points, and consequently CHRISTIANITY; because between the Hebrew and Christian dispensations there exists a strong connecting chain, which cannot be broken without shaking both systems to their very foundations. That history in fact contains the

* See Asiatic Researches, vol. III. p. 433.

only authentic narrative of the earliest events, and the lives of the most ancient personages known over all the East, imparted by revelation to Moses, but the principal facts recorded in which were traditionally known, or obscurely and allegorically intimated in the annals of all the great empires of Asia. Upon the basis of those facts, and the history of those personages, the astronomical allegories were founded, which gave existence to the figures designated on the primitive sphere; figures which have descended to us obscured under the veil of a complicated mythology; mythology, in great part the produce of the wild inventive fancy of Oriental fabulists, residing in different nations of Asia; but in a more particular manner confounded and perplexed with the details of the romantic and far more recent history of the Grecian heroes. That this is the true statement, and that Moses is only a more genuine Berosus, an historian whose page is uncontaminated with that base alloy of fable and physics, with which those of his successors in the line of historical detail are so grossly polluted, will be more and more evident as we pursue our inquiry into the annals of the ancient nation to whose history, after this long but not irrelevant nor unimportant digression, I return. The fact is, that if the sceptic reject the Mosaic history, he has no other authentic historical document of antiquity to depend upon, all others being only mutilations of the genuine primæval history of the world, by fabulists and sycophants, to aggrandize the name, and flatter the vanity of their respective nations.

CHAPTER XI.

Recapitulation of the Subjects discussed in the preceding Chapters—Oriental Fables relative to ADAM *examined—The real Situation of* PARADISE *inquired into—The* SATYA, *or perfect Age of India alludes to Man in Paradise; the two succeeding Ages, noted in Sanscrit Records, understood historically and morally, have Reference to the decreasing Age and declining Virtue of the Antediluvians.—The* FALL OF MAN, *an acknowledged Truth in India, forming the Basis of the Metempsychosis, and giving birth to the horrible Penances of the* YOGEES—*The* GIANTS *of Moses, and the Brahmins; and their asserted* LONGEVITY *considered.*

IN the preceding portion of this historical review of the characters most distinguished, and the events most interesting in the earliest ages of the world, we have seen that the COSMOGONY of India, and those of the other great Oriental empires, have a uniform feature of resemblance, and that the whole prospect exhibits only the shattered remains of one grand primæval system: broken by the dispersion of the patriarchal families, and corrupted by the allegories so prevalent throughout the East. Of this assertion no stronger evidence can be adduced, than that universal symbolical representation of all the Dii Majores of Asia sitting upon the sacred lotos; which is only a perversion of that old tradition that, at the beginning of time, an incumbent deity moved, or brooded upon the chaotic waters, and rendered them prolific. The natural history of the lotos will fully explain the allusion of those physical theologists, since it is the nature of that aquatic plant always to keep its head above the water which gives it birth, and cherishes and sustains it; and all the veneration entertained by Eastern nations for the lotos,

among whom it is sometimes honoured with divine rites, appears to be only the result of traditional accounts of that stupendous event.

Having dismissed the cosmogony, we came to the consideration of that important and disputed point, the *period* at which the Indians suppose it to have taken place; a circumstance which immediately, and of necessity, led to an ample investigation of the four YUGS, or periods of India. These we proved to have their foundation, not in truth and history, but in mythological fiction and astronomical calculation; and in order to demonstrate that all the exaggerated CHRONOLOGY of the ancient Asiatic kingdoms, so vauntingly holden up in ridicule of the Mosaic history, was in fact, the suppositious offspring of the same fruitful parent, we took a very wide excursive range through the early periods of the history of those mighty empires that anciently and successively swayed the sceptre of the Greater Asia. We shewed that the renowned sovereigns of Asia were, on their decease, exalted to planetary honours; and that, in the course of ages, the reign of the constellated king, and the period of the revolving planet were, partly by vulgar ignorance, and partly by courtly adulation to aggrandize the reigning family, confounded together, and thus ultimately gained footing amidst the calculations of true chronology.

ASTRONOMY being so nearly allied to chronology, or rather, the former constituting the basis of the latter science, and it being the intention of this history that no species of ancient science intimately connected with India, should be left out of its comprehensive scope, the commencement and gradual progress of astronomical investigation in those distant æras, supposed by Josephus to have been diligently cultivated and carried on by the ante-diluvian progeny of the virtuous Seth, claimed our next attention. In discussing, however, the origin of the Oriental zodiacs, solar and lunar, and in endeavouring to give the true history of the constellations, engraved on the celestial sphere, as well as to assign the honour of inventing

them, arrogated by the Greeks, to their true fabricators, we were unavoidably compelled for a time, to quit *ante-diluvian* ground, to descend below the *post-diluvian* ages, and range with devious steps amid the intricate, but delightful wilds of Greek mythology. However novel, and even chimerical, on the first perusal, may appear what has been so largely insisted upon relative to the sphere's bearing testimony to the truth of the Mosaic records, whosoever will attentively consider the arguments advanced above, concerning the similitude existing, as to the most important facts, and personages, between the Hebrew narration and Pagan annals, that Brahma, or Osiris, on the lotos, is *the Spirit incumbent on the waters;* that these annals equally record the devastations of *a certain great deluge*, in which all mankind, except eight persons, were destroyed; that the Noah of Syria, is the Menu of India; that the Nimrod of Babylon, is the Orion of Persia;* and that Egypt, and probably Greece, only altered the names of the Chaldean or Indian heroes and sages, accommodating the historical facts to their own more recent mythology: whosoever will seriously weigh these, and other analogous circumstances, must allow that the hypothesis upon which I have proceeded, is neither destitute of probability, nor unsupported by the collateral aid of Pagan antiquity. In fact, I have only enlarged the field of observation which Mr. Costard on the Chaldean Astronomy, and Mr. Bryant on the Origin of the Sphere, have already trod with so much honour. I must beg leave still to adhere to the original position upon which I set out, that the history of the ancient world, is to be read on the broad tablet of the heavens; and in that nation where the sphere was first formed, the

* For thus uniformly asserting Nimrod to be the Orion of the sphere, we have, among others, the express authority of the Alexandrian Chronicle, p. 85, which asserts, that in the Persian histories, probably not differing greatly from those of Chaldea, Nimrod was considered as their first king, that he invented the art of hunting, and that he was, on his decease, elevated to the sphere, under the name of Orion.

real heroes flourished, and the facts recorded actually took place. Those who may start the apprehended objections, would probably cease to urge them, were I disposed to admit what however can by no means ever be admitted by the author of this history, that Moses, instead of being an original and inspired writer, only copied the debased theological and historical systems prevalent in the neighbouring kingdoms of Asia, and gave them to the people of whom he was the august legislator, purged of their physical dross, and divested of their gross polytheism.

We shall now proceed in our retrospect towards ante-diluvian concerns, and without wandering from the ground, till we reach the period of the DELUGE itself. Some very interesting topics of Oriental investigation connected with this remote æra, solicit the notice of an Indian historian; and having taken an occasional glance at the subject of ante-diluvian astronomy, it may not be amiss in the course of the present chapter cursorily to consider what evidence there may be remaining in either sacred or profane authors of other arts and sciences having existed in the old world. This inquiry will necessarily carry us back to the period in which the great progenitor of the human race himself lived, as well as superinduce the consideration of many curious particulars, related by the Eastern writers concerning his endowments, mental and corporeal, and the original place of his residence, which not a few authors have placed in India.

It is possible, Sir William Jones intimates, that Adam may be derived from Adim, a Sanscrit word, signifying the first.* The Persians too, whom he concludes to be of the same stock with the Hindoos, denominate the first man Adamah; and Mr. Sale acquaints us that this word in Persic, and in its primary sense, means *red earth*, and, in all the Oriental languages, MAN in general, but in a

* Asiatic Researches, vol. II. p. 128.

more eminent degree, THE FIRST MAN.* It is, indeed, by no means surprising that, amidst all the speculative disquisitions relative to the situation of Paradise, some romantic writers should have fixed that spot in a country which Oriental geographers often distinguish by the denomination of, "the Paradisaical regions of Hindostan." Josephus himself seems, in some degree, to countenance this singular opinion, since he describes the Ganges as one of the four rivers which watered that happy region.† The warm and luxuriant valleys near the Ganges are not ill calculated for a terrestrial Eden; but how shall we account for the strange notion of Becanus, who contends that the site of Paradise was the more northern region, watered by the Acesines, and that the forbidden fruit was that of the Ficus Indica, or Indian fig-tree, which, he affirms, grows plentifully in that neighbourhood.‡ Hence this fig has been called by the Mohammedans, Adam's fig; but the whole story has probably originated from what is said in holy writ of Adam and Eve's making themselves aprons of fig leaves after the fall. The island of Ceylone too, situated under the equinoctial, has been dignified with similar honour, and from a famous mountain called, from the supposed print of Adam's foot, still visible, and two palms in length, Pico d'Adama, he is supposed to have ascended into heaven; but whatever credit may be due to the conjecture that Ceylone was the original residence of the father of mankind, the last mentioned circumstance can by no means be brought as an evidence for it, since Mr. Knox informs us, that the name of Pico d'Adama was invented by the Portuguese; that in the language of the country that high mountain is called Hammalella; and that the natives worship there

* See Sale, in the General Dictionary, and Herbelot, in Le Bibliotheque Orientale, under the article Adam. To these two authors I am principally obliged for my information concerning the various opinions of the Eastern world on this curious subject.

† Consult Josephi Antiquit. Jud. lib. 1, cap. 1. sect. 3.

‡ Goropius Becanus, cited in Raleigh's History of the World, p. 40. folio edit. 1677.

the sacred footstep, not of Adam, but of the God Boodha, who from that eminence mounted to his native skies.* I have before observed that this celebrated deity of India came from Egypt, and the very name of the mountain seems to carry evidence of the vestige of the priest of Hammon. It is rather surprising how repeatedly this celebrated island is mentioned by the Orientals as the abode of Adam, since those among them who will not allow Paradise to have been situated in any region of the present earth, but fix it in some happy ætherial sublunary region, unite in affirming that, at the fall, he was precipitated upon Ceylone, where according to Herbelot, his sepulchre at this day remains guarded by lions.†

This hypothesis has been adopted and contended for by some modern writers of eminence, who insist that the equator, or some region near it, must have been the true Paradise, as well on account of the temperance of the atmosphere, as the superior beauty and abundance of that portion of the earth; to which reasons astronomical theorists have added other arguments, as that the days and nights, which in Paradise were always equal, could only be so under the equinoctial line, and that in that delightful abode the bodies of the happy inhabitants *cast no shade*. Those writers, however, who place Paradise under the equator, must have entertained very different notions relative to the climates and constitution of the ancient world, than experience justifies our indulging concerning the present; since it is scarcely possible to conceive an agreeable residence in regions drenched by the impetuous rains, and shaken by the loud thunder of the tropics. Far preferable to this is the opinion of Tertullian‡, who contends that Paradise was situated beyond the

* Knox's Hist. of Ceylone, p. 81. fol. 1681.

† Mais les anciens Persans assurent qu'il fut enterré dans l'isle de Serandib, ou son sepulcre étoit gardé par des lions du temps que les Geants se fassoient la guerre. Herbelot, Biblioth. Orient. p. 52. Edit. Maestricht, 1776.

‡ Tertullian Apolog. cap. 47.

equinoctial, and in the southern hemisphere, amidst regions of eternal verdure and serenity, in some happy and secluded spot, now immersed in the ocean ; although, it must be owned, that father's opinion relative to the torrid zone, that burning girdle which surrounds the globe, being meant by the *flaming sword* which moved every way to guard the tree of life, and render that portion of the earth inaccessible to mortals, has more of genius than solid argument or truth. For myself, were it consistent with sacred writ to place the seat of Paradise any where but in the immediate neighbourhood of the Euphrates, I should incline with Bernier to conclude it was indeed in India, though not in the parched island of Ceylone, but in the warm, delicious, and fertile valley of Cashmere, that present Paradise of Asia, in the praise of which the Persian and Indian geographers are unbounded ; and whose accounts are epitomized under the article Cashmere in the Indian Antiquities.* After all, these speculations are nothing else but ingenious trifling ; the language of Moses is too decided, and the outlines of his geography are too accurately marked, to allow either of its being an allegorical Paradise, or of its being situated out of the bounds of Ashur, or Assyria, or remote from the Forat or Euphrates, which is said to have watered it. To fix upon the precise spot after such a lapse of years, and the ravages of earthquakes and inundations, is impossible ; undoubtedly it was well known, as well as the rivers mentioned as its boundaries, in the time of Moses : but the Jews, never remarkable for the profundity of their geographical knowledge, lost all remembrance of these and many other interesting particulars, during their captivity, and we can only form any true judgement concerning its site from the account of learned Eastern geographers who have examined matters on the spot, and the sum of their opinions is the statement which follows : Moses acquaints us, " that a

* See Bernier's Journey to Cashmere, p. 84.

river went out of Eden to water the garden, and from thence it was parted, and became into four heads." Eden seems to have been a portion of Babylonia; the garden of Eden, or Paradise, was situated on the united stream of the Euphrates and Tigris, after their confluence; these rivers, before their union, are the two heads, or principal rivers, called by Moses Forat and Hiddekel; and, dividing again below the garden into two distinct branches, form the Pison, and Gihon of the Hebrew historian.*

A thousand Eastern tales, as may be seen at large in the writers just cited, have been propagated by the Jewish rabbi and the various Persian and Arabian writers, concerning the gigantic form and powers of Adam; but though these must ever be considered as ridiculous legends, it certainly is neither irrational nor impious, since Adam, is represented as created *perfect*, and in *the image of his Maker*, to presume that he was endowed with intellectual qualities, far more extensive and vigorous than any of his posterity have since enjoyed. It is the unhappy lot of that degenerate posterity, to arrive at any degree of superior wisdom and science among their species only by very slow advances, and after much severe mental exertion: but it is possible and credible, that he who was appointed to replenish and subdue the earth, and to be the sovereign lord both of its human and its bestial inhabitants, was intuitively invested at his creation with faculties of reflecting, comparing, and judging, adequate to his important station, and proportionate to the extent of his dominion. This, indeed, seems to be evident, from his being able to give names, doubtless expressive of their various nature, and distinguishing qualifications, to the several animals that passed in review before him, when as yet he could not possibly be acquainted with them by means of observations and experience. Whatever

* Consult Bochart's Geographia Sacra, Carver's Dissertations on the Terrestrial Paradise, Calmet, and the Oriental authorities cited in Pool's Synopsis.

knowledge Adam possessed, must indeed have been innate: but to assert, with some of the writers cited in the Bibliotheque Orientale, that he was fully acquainted with the whole range of science; in particular, that he was profoundly skilled in that of the heavens, and that his speculative mind was conversant in all kinds of moral, philosophical, and mathematical knowledge, is certainly to exceed the bounds of probability, and rather contrary, as Mr. Bayle well observes, to what may more justly be inferred from Scripture, in regard to the fruit of that forbidden tree, which was not only "good for food and pleasant to the eyes, but *desirable to make one wise.*"* How far the Almighty might condescend to make our great progenitor acquainted with the true system of the universe, in so beautiful a region of which he had placed him, not for the gratification of an impertinent curiosity, but for the exercise of his virtue, and for the trial of his obedience, it is impossible for us to ascertain. He might in reality be as little acquainted with that system as possibly was the Hebrew historian; respecting whom I have repeatedly observed, that to fulfil the character in which he had been appointed to act, that of a great legislator, it was by no means necessary that he should have been a profound astronomer, and acquainted with the principles of the Pythagorean philosopy.

Man was by the inscrutable wisdom of Providence formed a glorious, but a finite being. Stationed by that Providence in a spot of the universe in magnitude scarcely exceeding a point, when compared with its vast circumference, endowed with very limited faculties, but faculties sufficient for the contracted circle in which he was ordained to move, he yet had it in his power to secure an elevated station of distinction, and to enjoy a large portion of felicity. In any very extensive degree to have gratified his restless avidity after knowledge beyond this "visible diurnal sphere," would have been

* Genesis, Chap. iii. ver. 6.

doing him material injury. The all-wise Creator, in pursuing such a line of conduct, would have rendered him less happy than he was intended to be, and less fit for the duties he was to discharge. The knowledge of his limited capacity, while it repressed the ebullition of his pride, should have taught him obedience and resignation; it ought to have added vigour to his virtue, and fervour to his devotion. It is a melancholy, but an incontrovertible truth, that new acquisitions of knowledge do not often bring with them a proportionate increase of happiness. It was the indulgence of an inordinate and criminal ambition, and the gratification of a forbidden curiosity, that hurled our great ancestor from Paradise. The Almighty saw that insatiable ambition predominant in his soul, and commanded the angel with the flaming sword to drive him from the pure regions of delight and innocence, now contaminated by his offence; and suffered him to wander a solitary, but not an unpitied exile, amidst the abodes of misery and mortality.

This account of the position of Adam by the Almighty, in an abundant and beautiful garden, together with all the circumstances of his subsequent *temptation and fall*, has been ridiculed by some writers as *absurd;* while by others it has been considered as an ingenious Oriental *allegory*, to account for the origin and introduction of EVIL into the world. This is not the place for any extensive agitation of a question, which has been often and ably discussed by others. I shall only observe, that the least knowledge of the customs and manners of Asiatic nations, who have ever joined to their notions of Paradise, the verdure of gardens, the bloom and odour of flowers, murmuring fountains, and cooling fruits, so grateful in a burning climate, must annihilate every idea of absurdity in the Mosaic narration; and that to consider the whole as an allegory, is not only to throw over it the veil of inexplicable confusion, and involve the whole Pentateuch of Moses in doubt and obscurity, but to shake to its very basis Christianity,

which commences in the promise that "the seed of the woman should bruise the head of the serpent."

In reality, if we take the history of the FALL in any other sense than the obvious literal sense, we plunge into greater perplexities than ever. Some well meaning pious commentators have indeed endeavoured to reconcile all difficulties, by considering some parts of the Mosaic history in an allegorical, and other parts in a literal sense; but this is to act in a manner utterly inconsistent with the tenour and spirit of that history, and with the views of a writer, the distinguishing characteristics of whose production are simplicity, purity, and truth. There is no medium, nor palliation; the whole is allegorical, or the whole is literal. The Indians have an entire PURANA on this very subject: the story is there told in the same manner: the facts narrated uniformly correspond, and the consequences are equally tremendous. Hence, possibly, it has arisen that in *their* mythology, the king of the evil assoors or dæmons is called the king of serpents, of which poisonous reptiles, folded together in horrible contortions, their hell, or Naraka, is formed. What is very remarkable, is, that the name of this serpent monarch is NAGA, and he is the prince of the Nagas, or Naigs, in which Sanscrit appellation we plainly trace the Hebrew NACHASH, which is the very word used for the particular serpentine tempter, and, in general, for all serpents throughout the Old Testament. In its primary sense, the word signifies diviner, *augurium fecit,* and therefore a certain species of serpents, for they were ever divided into two distinct classes according to their qualities, the noxious and the innoxious, have been immemorially considered throughout all Asia as sacred animals, and as having something prophetical in their nature. Their bodies have ever been selected as the usual and favoured abode of the deity, and all the statues of Indian deities in the Elephanta cavern, are therefore enveloped with serpents to mark their divinity. The Indians, who universally believe

in the agency of good and evil spirits, by no means conceive any thing absurd, repugnant to reason, or adverse to a sound system of theology, in the supposition that one of the numerous and subtle spirits that tenant the vast regions of the ethereal kingdom should, by the permission of the supreme Governor of the universe, for wise, but to man inscrutable reasons, have entered into the beautiful and resplendent form of that peculiar serpent of eastern and southern climes, whose body glitters like flame, and instead of crawling upon the ground, like the common reptile of that name, mounts upon wings of burnished gold, like the fiery flying serpents mentioned in Isaiah xiv. 29, and might therefore well be conceived to have been an angel of light by the deluded Eve.* From innumerable treatises also in their language, in which the brute creation is perpetually represented as endowed with the powers of speech, it may be presumed, that the serpents assuming a voice in this grand drama of Paradise, would by no means either excite astonishment in the mind of the Indian, or give birth to any sentiments tending to invalidate the credit of the principal fact; nay, it is more than probable, that the very general belief, in this part of Asia, that brute animals, in the most ancient æras of the world, were not only gifted with speech, but also possessed the faculty of discoursing rationally, originated in some mutilated tradition concerning the serpent's accosting Eve on this fatal occasion in the human accent.

Together with the Indian doctrine of good and evil genii, or dæmons, variously operating upon the classes of mankind, it may be proper to mention, that the celebrated Persian dogma of the TWO GRAND PRINCIPLES, predominant in nature, good and evil, was probably founded on the obscure intimation given in Genesis relative to the tree whose fruit produced in the mind of the consumer the knowledge of that moral distinction; nor can it be

* Consult on this subject the works of the profoundly learned Mr. Mede, in Discourse 38, p. 291. edit. folio, 1672.

doubted, that the Indian notion of an AMREETA, or water of immortality, as well as the nectar and ambrosia represented by the Greeks as the food of their gods, are corruptions of what is there reported concerning the tree of life, the exalted ethereal juices of whose rich produce were intended, had he continued in innocence, to renovate the exhausted spirits of man: to quicken, when languishing, the crimson current of life; and to impregnate the whole system with rekindled energy and vigour.

We have already considered the four Indian YUGS in the light of vast astronomical periods, for such is their primitive and genuine original. We must now regard them in that secondary view in which the Brahmins themselves consider them, that is, in a philosophical and moral sense, as connected with history and mythology; and investigate what events are, in Sanscrit annals, recorded to have happened during those periods.

When we bring these yugs to the test of reason, and the standard of historical verity, and when we compare them with the received traditions of other nations concerning the early history of the human species, in the mind that duly attends to all the parallel circumstances of the case, there can arise little doubt, but that by the SATYA AGE, or age of perfection, the Brahmins obscurely allude to the state of perfection and happiness enjoyed by man in Paradise.—It is impossible to explain what the Indian writers assert concerning the universal purity of manners, and the luxurious and unbounded plenty prevailing in that primitive æra without this supposition. Justice, truth, philanthropy, were then practised among all the orders and classes of mankind: there was then no extortion, no circumvention, nor fraud used in their dealings one with another: perpetual oblations smoked on the altars of the deity; every tongue uttered praises; and every heart glowed with gratitude to the supreme Creator. The gods, in token of their approbation of the conduct of mortals, condescended frequently to

become incarnate, and hold personal converse with the yet undepraved race of mortals; to instruct them in arts and sciences, to unveil their own sublime functions and pure nature, and make them acquainted with the economy of those celestial regions into which they were to be immediately translated when the period of their terrestrial probation expired. According to the Brahmins, during the Satya, or golden age, the supreme VEESHNU himself descended at four different periods; during the succeeding Treta, or silver age, that deity descended three times; in the Dwapar, or copper age, the brazen age of the Greeks, only twice; and in the present, Cali, or earthen age of 432000 years duration, the iron age of the Greeks, the earth is only to be honoured once with his presence, when all the impious are to be extirpated. It has been before remarked, as a circumstance very consonant to the assertion of Scripture, that at the end of the Cali age the earth, according to the Brahmins, is to be destroyed by a general conflagration; the traditions of all nations unanimously confirm this doctrine. Adam, according to Josephus, predicted two grand periods to the existing world; the first by means of water, the last by the visitation of fire. What the Pagan traditions affirm, revelation wonderfully corroborates. The Indians might have derived the maxim from their patriarchal ancestors; but doubtless their physical researches tended to strengthen the supposition. They saw that FIRE was the great destroying agent in nature, an agent in its operations at once terrible, and resistless; and they, therefore, assigned to the action of that element the tremendous catastrophe of her final dissolution.

The above curious division of the time, which they suppose the world is to last, into so many distinct periods, each gradually decreasing in extent, is, as we have before observed, connected with the favourite but romantic notion entertained by those philosophers, that virtue has decreased after a certain arithmetical pro-

portion in the four ages above enumerated; and strictly to adhere to propriety, I ought immediately to commence my history of the four first of the ten Avatars, that is, the Matsya, the Courma, the Vara, and the Sing incarnations, which took place in the Satya age. It is clear however to myself, and must, I am of opinion, be evident to every Indian scholar, that neither the three first Avatars, which entirely relate to the destruction of mankind in a general deluge, for their *accumulated impieties*, and the recovery of the globe submerged in the waters of the ocean, nor the fourth, in which an arrogant monarch is punished by the signal and instantaneous vengeance of heaven, for dreadful blasphemies uttered against the supreme Ruler of the world, can possibly belong to an age of such consummate perfection and felicity. To observe consistency, therefore, I am compelled to follow the line marked out by Sir William Jones, and refer the ten principal Avatars, which have more particularly been detailed to us from Sanscrit books, to post-diluvian history; although I cannot entirely concede to my learned friend's decision, that the Satya age, so evidently pointing to Paradisaical happiness and innocence, ought solely to be confined to the period immediately succeeding the flood. He allows in another place that there were, in every age of the world, innumerable such imagined descents of the deity, though these are the ten principal ones recorded in their books, and these I must contend evidently allude to an age degraded by crimes, and darkened by misfortune and misery.

Leaving, however, the Avatars for future consideration, let us return to the subject of the four ages, concerning which I beg permission again to remark, that we must search for the origin, of the idea at least of the golden age, far higher up in antiquity than the periods at which Greek and Roman poets have fixed it. Let any man read the beautiful descriptions in Hesiod and Ovid of the happiness, virtue, and abundance which reigned in that age, when

the earth spontaneously, and without the least labour of man, brought forth her richest productions, when an eternal spring reigned over its surface, and rivers of milk and nectar flowed through nature's universal garden ;* and he will immediately perceive, that from whatever quarter these poets derived the primitive idea, probably from the Sibylline books, which detailed the old Mithraic traditional histories, treasured in the Greater Asia, the splendid and luxuriant picture could only be verified in a Paradisaical state, and in a direct application to the *πρωτων χρυσεον το γενος*, the golden age of the first race of men, as Eusebius expresses himself. † After all, the boasted Saturnian age of the ancients by no means merits the exhalted title of golden, since it was an age of strife and debate, and deeply stained with blood, owing to the wars of Saturn with his brothers the Titans : it was by the death and emasculation of his father that Saturn attained his throne, and to the very same fate he himself was obliged to submit, when his son Jupiter wrested from his hand the sceptre which he had usurped. But waving these considerations, and the endless jargon of mythologists, I am inclined to believe that the four Greek and Roman ages are nothing more than the corruption of the four Indian yugs, and the basis of that belief is the argument upon which I have all along proceeded, that, of two nations possessing the same singular systematic arrangement, the elder has an undoubted claim to be regarded as the inventors of that system. As the yugs likewise are in their origin mere astronomical periods, it should seem that they were denominated golden, silver, brass, and iron, not so much from the decreasing energy of virtue in each age, as from the prevalence of the supposed influences of the different planets, designated by those metals in Eastern mythological astronomy, and suspended in the cavern of Mithra, according to the account given from Celsus in the Indian Antiquities,‡ in the

* See Hesiod, lib. I. v. 101, and Ovid Met. 1. 3. † See Præpar. Evang. lib. I. cap. 10. ‡ Vol. II. p. 280.

form of globes, fabricated of those respective metals; as, for instance, the sun by gold, the moon by silver, Jupiter by brass, and Mars by iron. It is not at all improbable, that they might primarily mean only the four seasons of the year, (for the words age and season were in the ancient chronology frequently confounded) distinguished by the hue of the attendant planet supposed to govern those seasons in succession, and respectively; the idea might afterwards be amplified, so as to comprehend a larger portion of astronomical time, and finally be applied to signify the complete solar, lunar, and sidereal revolutions. The close connection subsisting between the physical and moral researches of the ancients, immediately led to the confounding of an astronomical with a moral truth; and man decreased in virtue in proportion as the annus magnus verged towards its close, and the predicted consummation of all things, their famous Αποκαταςασις, approached. The ancient Indians, ever exalting, and sometimes deifying, the bovine species, for the benefits which mankind derive from the labour of the male, and the nutritious milk of the female, asserted that in the first of these ages, Virtue reigned upon earth under the form of a cow. Young, vigorous, and beautiful, she then majestically trod the earth on four feet. In the second age, her vigour began to decline, her sinews to grow rigid, and she went infirm on three legs. In the third age, she became gradually more decrepit, and was reduced to walk on two legs. In the present age, they affirm the sacred cow has but one leg to rest upon, and is gradually retiring from the wholly contaminated globe.

It is not however in *virtue* alone, but in *stature* also, and in the number of days alloted to human life, that the race of men, according to the Brahmins, have been declining ever since the blessed Satya age; for in that age the life of man was prolonged to 100,000 years, and his stature was of the amazing height of twenty-one cubits. Since Moses likewise in his short sketch of ante-diluvian

history, acquaints us, that *in those days there were giants on the earth:* and that the life of man was protracted to the date of nearly a thousand years; this is a subject which demands more particular attention: for it seems, at first sight, to prove that the Hebrew historian, by some means or other, had seen and was conversant with the sacred books of the Indians. With respect to the gigantic structure of the progeny of the depraved Sethites, who married the daughters of Cain, it is in vain that some too scrupulous commentators have endeavoured to explain away the meaning of the Hebrew word NEPHILIM, as if it were intended by Moses merely to point out their enormous impiety and outrageous tyranny: it is plain from the context, and the general usage and application of that word throughout the Old Testament, but particularly in Numbers, xiii. 32, that the term Nephilim was intended to denote men of unusual and gigantic stature; to which however, it is probable they joined a more than ordinary portion of that unbounded profligacy which finally effected the desolation of the old world. The investigation of this topic, viz. the *reputed giants of ancient periods*, forms a subject at once curious and abstruse. The assertion of Moses has given occasion to not a few sarcasms on that historian: I shall therefore endeavour to place the matter before the reader in that true point of view, in which alone it ought to be regarded; and in adducing the testimony of all the ancient historians, sacred or profane, in decided corroboration of the same truth, I shall hope at once to vindicate the historian and gratify the reader.

That men of such uncommon dimensions as are those whom we denominate *giants* have existed in various ages and climates, the united voice of history affirms; and even modern times have produced instances of individuals, whose bulk, when compared with that of their fellow-creatures in general, entitles them to that appellation. Ocular demonstration of this *lusus naturæ* may fre-

quently be had in our own country: and well attested accounts of the existence at this day of individuals, in stature far exceeding that of the ordinary race of men, have reached us from abroad. That men of this uncommon size were rarities in the ante-diluvian world, as they are in the present, is evident from their being thus particularized by Moses as a kind of prodigy; though probably from natural causes, as the yet undecayed vigour of the human race, in that primeval state; the rich nourishment afforded by the ante-diluvian productions of the earth, and the salubrity of the air, they might have more abounded than among the present exhausted and puny generations of men. The impossibility of the fact has been attempted to be demonstrated; but it is certain that the existence of giants, even of enormous dimensions, is by no means mathematically impossible; nor does nature seem to have put impassable limits to her operations, either in the growth of men, animals, or vegetables. Majestic as is the oak and the fir of our forests, what are they when compared with the stupendous productions in the tropical world, the magnificent cedar, the stately mahogany, and the spacious canopy of the wild fig of either India? What are the marine animals that tenant the western deep, to the enormous species that gambol on the coast of Norway, and tempest the great northern ocean? The nations of men are not without their marked disparities, though not so vast and surprising; nor is the stature of the human body by any means absolutely and invariably fixed to one standard in any quarter of the world. In Europe, the robust German, and hardy Swiss, far exceed in size and strength the effeminate inhabitant of Italy. Even the natives of the British Islands themselves may be called a kind of giants when compared with the puny progeny of Lapland, and the dwarfish tribes that shiver amidst the snows of the Siberian desert. In Asia, the towering and storm-beaten Afghan of the Caucasian mountains, brandishes in battle a sabre which the nerveless and effemi-

nate *Malabar* could hardly wield. In Africa, the rocks of Ethiopia, according to Ludolphus,* have produced very many savage chieftains "in shape and gesture proudly eminent;" nor are the narrations totally undeserving of credit, that have asserted the existence of whole tribes in the southern regions of America, in stature very considerably exceeding the ordinary race of men.

To be more particular: and, in the first place, since the meaning of the Hebrew word Nephilim, or giants, is disputed, to advert to holy writ, does not the express text of Scripture acquaint us, not only that *gigantes erant super terram in diebus illis,* that is in the ante-diluvian days, Gen. vi. 9, but afterwards, in various places of the Old Testament, does it not as directly speak of the *sons of* ANAK as *a race of giants,* Deut. xiii. 33; of the giant OG, *king of Basan;* and that we might not doubt of the reality of his gigantic stature, the very dimensions of his iron bed are given by the sacred penman; monstratur lectus ejus ferreus, qui est in Rabbath filiorum Ammon, novem cubitas habens longitudinis, Deut. iii. 11, (Vulgate translation) that is about thirteen feet and a half in length; and consequently, as bedsteads are generally one-third part longer than the person who lies in them, himself about ten feet high; and finally, of the dread Goliah, whose height was *six cubits and a span,* 1 Sam. xvii. 4, or about eleven feet, but whom the stripling David, by the might of Jehovah, slew.

Let us now consult the earliest prophane authors on this subject, and we shall find their accounts uniformly correspondent to those of Moses. Had there not been traditions in Asia of a gigantic race flourishing in the most remote periods of the world, whatever the poets might have fabled, the ancient historians would scarcely have ventured to insult the common sense of mankind by recording their magnitude, and detailing their history. But it is highly probable that both Homer and Hesiod, in the admirable productions that

* Ludolphi Comment. in Hist. Æthiop. lib. 2.

bear their name, only arranged in harmonious measures the traditional dogmas and popular opinions, which sanctioned by time and the universal consent of mankind, had descended down to them from remote antiquity. These indeed, received the embellishments of poetry, and were blended together with the exaggerations of fiction, but had truth for their basis, and primeval history for their support. Thus the fable of the giants storming heaven, as related by Hesiod,* evidently appears to be only a perversion of the traditionary account recorded by Moses of the gigantic ante-diluvian progeny, and the enormous impieties committed by them against the sovereign ruler of earth and heaven, the genuine Jove; or perhaps the battle of the Titans may allude, as many learned men have supposed, to the mad enterprize of Babel, when in defiance of the Almighty, the ambitious Cuthites attempted to erect *a tower which should reach to heaven;* and one should be inclined to think, from Homer's account of the giant Tityus, whose body when dead,

——— Ἐπ' εννεα κεῖτο πελεθρα.†

covered (not *nine* cubits, but) *nine* acres of ground, that the history of the king of Basan, and the vast dimensions of his iron bed were known in the east beyond the limits of Palestine. The same author, relating the siege of Troy, mentions the gigantic strength of the heroes who were engaged in it, and informs us, that they hurled against its walls, stones of such magnitude, as four men of the age in which he lived would scarcely be able to lift; and Virgil, his faithful imitator,‡ gives nearly the same description of the warlike Turnus. Quitting, however, the page of poetry, the Cyclops and Polyphemes of Grecian fiction, let us turn to that of sober history, and we shall find a chain of evidence result from the inquiry, which incontrovertibly proves the existence of giants in

* Vide Hesiodi Theogonia, v. 590. et seq. † Homeri Odyss. lib. 11. v. 575.

‡ Æneid, lib. 12. ver. 34.

various regions and æras of the world. Accordingly to Berosus,* and the Alexandrian Chronicle, the ten ante-diluvian kings of Chaldea were of gigantic stature. Pausanias in Atticis,† gives two instances of giants of enormous dimensions. The skeleton of one of those he himself had surveyed with astonishment in a small island of Lydia: of the other, Asterius, whose tomb was in Miletos, it is very remarkable that he calls him by a scriptural denomination "the son of Anak, who was said to have been the son of the earth." The body of Orestes is said to have measured seven cubits, that is, eleven feet and a half; and the emperor Maximin was nine feet high. A renowned sovereign of the nation whose history I record, even the mighty Porus who contended with Alexander, according to Arrian, was above seven feet in height.‡ To descend lower in history, Cæsar tells us that the whole race of Germans § were immanni corporum magnitudine homines; and Tacitus affirms the same thing of the ancient Celtæ. Pliny, among other more romantic tales of this kind, gives an account of a man of the name of Gabbara, who in the reign of Claudian, was brought to Rome from Arabia; his stature was of the altitude of nine feet nine inches. He also mentions two others living in the reign of Augustus, who were higher than Gabbara by half a foot, and whose bodies were preserved as curiosities, in a sepulchre erected in the garden of the Sallustians.||

The instances above enumerated, from authentic writers, are fully sufficient to vindicate the truth of sacred writ in its assertions concerning the existence of giants; but to conclude, as some rash authors have done, that the whole race of ante-diluvians were of gigantic magnitude, is to decide in a manner diametrically opposite to what may be more justly inferred from the express language of Moses, and the obvious sense of the context. With respect to the

* Vide Eusebius in Præpos. Evang. lib. 9. cap. 14. † In Atticis, cap. 35.
‡ Arrian, p. 45. edit. Gron. § De Bello Gall. p. 183. || Pliny, lib. 7, cap. 16.

assertions of the Brahmins, that in the first or Satya yug mankind towered to the height of twenty-one cubits, or thirty feet; these are what might be expected from so romantic a race, and are only upon a level with their other exaggerated notions of men and things. It is, however, a very curious fact, and deserving transient notice, that Pausanias, recently cited, informs us that one of the Roman emperors, having turned the course of the Orontes, found in the deserted channel of that river, a tomb of brick, a hundred cubits in length, which inclosed a dead body of the same dimensions. The Syrians, through whose country the Orontes flowed, on consulting the oracle of Apollo, at Claros, in order to discover whose body it was, received for answer that it was the body of Orontes, a native of India; and indeed, adds the historian, what spot of the globe in those primitive times was so proper to produce men of extrordinary bulk as India; which at presest nourishes and abounds with animals of such vast size as the rhinoceros and the elephant?* Whatever extravagance there may be in this narration, and whatever error in this reasoning of our historian, the opinion that India contained both men and beasts of prodigious strength and size, was generally credited in the ancient world: and these relations, to be found in the most venerated books of the Brahmins, if they are not to be admitted as evidence for the truth of that opinion, at least serve to establish one fact, highly important in this disquisition; viz. the universal consent of nations on the point under discussion, and the wide diffusion of this doctrine through every region of the habitable earth.

The longevity of the ante-diluvians forms the next important subject of this historical retrospect; and on this point the Brahmins carry their assertions to a pitch of extravagance far beyond those of any profane writers known to us, since they state the period to which men lived in the Satya yug at 100,000 years, in the Treta

* Pausanias in Acardia, cap. 29.

yug at 10,000 years, and in the Dwapar yug at 1000 years; in which last statement it has been already observed, they accurately coincide with that of the Hebrew historian. As man and the earth are now constituted, we know it to be utterly impossible for him ever to arrive at a fourth part of even the smallest of the preceding periods; the most extended term of longevity among the present race of mortals on authentic record, being 169 years, the age of Henry Jenkins, "the oldest man born upon the ruins of this post-diluvian world."* With respect, however, to the constitution of the ante-diluvian race and earth, the case was doubtless widely different. The strength of the human stamina might be greater in that early state of mankind, when as yet the human race was happily free from those taints and vicious impurities of the blood and habit, acquired by intemperance in succeeding ages; the productions of that primitive fertile soil, although far inferior to those of Eden, and in particular to that immortal plant, by the very tasting of which, it is said man might be enabled to *live for ever*, were in all probability abundantly more nutritious and invigorating than those of the present earth, and a serene sky, and a salubrious air, wafting around vernal odours, from the enjoyment of a perpetual equinox, might together concur to prolong the period of his probationary existence on this terrestrial scene (for such, in every point of view, does human life appear to be) to a term beyond the utmost conceptions of post-diluvian mortals, who judge only according to their own bounded knowledge, their own imperfect experience, and the economy established in the present system of things. The circumstance last mentioned, viz. the salubrious air and benign temperature of climate, probably enjoyed by the ante-diluvians, is of great importance in this inquiry concerning the causes of their longevity; for every body knows the powerful influence, even in

* The words of his biographer in the Philosophical Transactions, vol. III. p. 308. of the abridged edition, by Lowthorp and Jones.

the post-diluvian world, of a pure and serene atmosphere, towards procuring permament health and prolonged life ; and it is notorious that the longest livers in it have been those, who have breathed all their lives an untainted atmosphere, in high mountainous situations, or resided in the delightful regions of the temperate zone. Hence it is that Paradise has been so generally, however erroneously, considered by authors as situated under or near the equator ; and that the Fortunate Islands have been so often honoured with that appellation.

Ovid, speaking of the golden age, says,

> Ver erat eternum ; placidique tepentibus auris
> Mulcebant zephyri natos sine semine flores.

And Dr. Burnet, in his Theory of the Earth, among many whimsical and ill-founded suppositions, has discussed this particular subject in a masterly manner. After assenting to the general opinion, that the ante-diluvians were blessed with a *perpetual equinox*, he observes, that their lives could not possibly have been extended to that wonderful length mentioned by Moses, had their bodies been exposed to the same vicissitudes of climates and seasons as our bodies are : that with respect to our bodies, the astonishing contrarieties which they undergo, are the certain though gradual source of their decay ; that repeated impressions from àlternate heat and cold, dryness and humidity, often in great extremes, relax the tone of the fibres, and in time produce total and incurable debility. "Our bodies," he observes, "in the present state of nature, pass through an hundred different *mediums* in the course of a year : sometimes we are steeped in water, or in a foggy atmosphere, for several days together ; at one season of the year we are almost frozen with cold ; at another we are fainting with heat ; we are successively molested by the wind and the tempest, and the air is continually varying its *weight* and *pressure :* these things would wear out our bodies, though they were built of oak ; and that in a

very short time, in comparison of what they would last if they were always encompassed with one and the same *medium*, under one and the same temperature, as it was in the primitive earth."*

These observations are by no means made with any view to substantiate the extravagant asseverations of the Brahmins, in regard to the fancied age of man in the two first yugs; but are solely intended to vindicate the more temperate assertions of Moses, concerning the period of nearly 1000 years, which the patriarchs are affirmed to have lived; a period so remarkably consonant to the human age, in the Dwapar yug of India.

The ingenious Mr. Whitehurst, in his Inquiry into the original State and Formation of the Earth, argues very strongly upon nearly the same ground. That writer is of opinion, that the face of the ante-diluvian earth was by no means diversified with mountains and continents, of such vast height and extent as the present is; and that the temperature of the air and seasons, added to the succulent state of the earth's surface, rendered its vegetable productions extremely luxuriant at all seasons of the year. The consequences were, a most abundant health, and most extended longevity to the inhabitants of that world. He imputes entirely to the breaking up of its surface, through the force of subterraneous fires, and the consequent fury of the conflicting waters of the ocean and the abyss at the deluge, the formation of those vast masses which are now known to have such a powerful effect upon the air and climate; far more so than the situation of any region, in point of its proximity or distance in regard to the sun. The universal temperature of the air became entirely altered; and the extremes of intense heat and cold, in the torrid and frigid zones, were then first felt, as well by man as through all the classes of the vegetable world. He farther observes, that if temperate climates greatly prolong the period of human life in the post-diluvian world, it seems but

* Burnet's Theory, p. 200. edit. folio, 1684.

reasonable to infer, that the same cause produced the same effect in the ante-diluvian world; and that if the post-diluvians, under all the disadvantages of an unsettled climate, and a depraved constitution, have in numerous instances survived the age of 130 years, the supposition that the ante-diluvians lived many hundred years, according to the Scripture account, is rendered extremely probable. In proof that his assertions, in respect to the effect of a temperate climate to prolong life, are not made without a proper basis to support them, Mr. Whitehurst quotes Lord Bacon, on the surpristing longevity of the Italians, proved by authentic accounts inserted in the register of the Roman Empire.

"The year of our Lord 76, the reign of Vespasian, is memorable; for in that year there was a taxing. Now taxing is the most authentic method of knowing the age of men. In that part of Italy, lying betwixt the Apennine mountains and the river Po, there were found an hundred and twenty-four persons, that either equalled or exceeded an hundred years of age; namely,

Fifty-four	-	100 years each.
Fifty-seven	-	110
Two	- -	125
Four	- -	130
Four	- -	135 or 137
Three	-	140

"Besides the above, Parma contained five; whereof,

Three were	-	120 years each.
Two	- -	130
One in Bruxells	-	125
One in Placentia	-	131
One in Faventia	-	132

"A town near Placentia, ten; whereof,

Six were	-	110 years each.

Four	- -	120 years each.
One in Rimino	-	150, whose name was Marcus Aponius."

"His lordship also enumerates many instances of much greater longevity than the above, but does not consider the records of them equally authentic with the former."*

The following table Mr. Whitehurst also presents to his readers, as containing many remarkable instances of longevity in Great Britain and Ireland, in the present age; although he observes, they cannot boast of a number equal to the above, living at one and the same time.

* See Whitehurst's Inquiry, p. 165.

A TABLE OF LONGEVITY.

Names of the People.	Age.	Places of Abode.	Living or Dead.
Thomas Parre -	152	Shropshire	Nov. 16, 1635
Henry Jenkins -	169	Yorkshire	Dec. 8, 1670
Robert Montgomery	126	Ditto -	Living in 1670
Anonymous -	140	Ditto -	Both living 1664
His Son - -	100	Ditto -	
Countess of Desmond	140	Ireland -	
Mr. Ecleston -	143	Ditto -	1691
J. Sagar - -	112	Lancashire	1668
—— Lawrence -	140	Scotland -	Living
Simon Sack -	141	Trionia -	May 30, 1764
Col. Thomas Winsloe	146	Ireland -	August 22, 1766
Francis Consist -	150	Yorkshire	January, 1768
Christ. Jac. Drakenberg	146	Norway -	June 24, 1770
Margaret Forster -	136	Cumberland	Living, 1771
Her Daughter -	104	Ditto -	
Francis Bons -	121	France -	Feb. 6, 1769
John Brooky -	134	Devonshire	Living, 1777
James Bowels -	152	Kilinworth	August 15, 1656
William Mead, M. D.	148	Ware -	October 28, 1662
John Tice	125	Worcestershire	March, 1774
John Mount -	136	Scotland -	February, 27, 1776
A Goldsmith -	140	France -	June, 1776
Mary Yates -	128	Shropshire	—— 1776
William Bren -	121	Brunston -	
Jeremiah Gilbert -	132	Apthorp -	
John Bayles -	126	Northampton	April 5, 1706
Martha Waterhouse	140	Biesly, Yorksh.	
Hester Jagar, her Sister	107		
A Woman -	154	Cornwall -	
John Campbell -	112	Dungannon Ir.	Living, 1783
William Ellis -	130	Liverpool	August 16, 1780
Dumiter Radaly -	140	Harmenstead	January 16, 1782
Val. Catby -	116	Preston, Hull	October, 1782
William Evans -	145	Canarvon -	Living, 1782
James Southwell -	116	Limerick -	
Lewis Jones -	113	North Wales	1784
Hugh Rowland Hughes	114	Ditto -	1784

This gentleman is farther of opinion, that the life of man began gradually to decrease after the fatal event of the deluge; he presents us with another short table, in which that gradual decrease is stated: and the whole is so consonant, to the account of the Brahmins, that those of my readers who wish to have this curious subject fully before them, will perhaps think themselves obliged to me both for that table, and the author's remarks upon it.

" All these circumstances, duly considered, seem to imply that the period of human life began to contract gradually from that particular æra, to its present standard: for since a constitution removed from a temperate to an intemperate climate, will last longer than a native constitution, by parity of reason we may nfer, that the ante-diluvians would live much longer in the post-diluvian world than those born after the flood.

" Having considered the consequences arising from the great revolutions in the natural world, on the period of human life, let us take a view of the ancient records, and observe their agreement with the result of the preceding enquiries.

Longevity before the Flood.		Longevity after the Flood.			
	Years		Years		Years
Adam - -	930	Noah after the Flood	350	Ruben	124
Seth - -	912	Shem after the Flood	502	Simeon	120
Enos - -	905	Arphaxad - -	438	Levi -	137
Cainan - -	910	Salah - -	403	Judah	119
Mahalaleel -	895	Eber - -	464	Dan -	124
Jared - -	962	Peleg - -	239	Naphthali	130
Methuselah -	969	Reu - - -	239	Gad -	125
Lamech - -	777	Serug - -	230	Asher	126
Noah before the Flood	600	Nahur - -	148	Issacher	122
Shem before the Flood	98	Terah - -	205	Zebulon	114
		Abraham -	175	Joseph	110
		Isaac - -	180	Sarah	127
		Jacob - -	147	Kohath	133

" According to the Scripture account, Adam lived to the age of nine hundred and thirty, and Noah to the age of nine hundred and fifty.

" Hence it appears, that the period of human life was not contracted during that period of time: we may thence infer, that the temperature of the air and seasons suffered no alteration before the flood. These circumstances perfectly coincide with the result of former reasonings, relative to temperate climates prolonging the period of human life.

" And it is also evident from the same authority, that the period of human life became gradually contracted, from the flood to the days of Terah, to that of 205 years; and as the greatest part of Jacob's numerous family lived to the age of 120 years and upwards, we may consider that period to have been the ordinary age of mankind in that particular æra.

To resume the consideration of the great yugs of India. In Chapter the Second, near the commencement of this volume, I stated precisely the periods to which I would confine all calculations made by the ancient lunar year, viz. to those only in which the Oriental chronologers reckon the age of man, by " hundreds, fifties, and tens of thousands of years;" but I absolutely renounced all claim to the use and application of the lunar period in solving the supposed difficulties attendant on the estimate of the thousand years, during which the ante-diluvians of Moses are affirmed to have flourished; because I observed that such a conduct would infallibly occasion numerous and endless absurdities, reducing the whole intervening space between the creation and the flood, to a period considerably under two hundred years; and the life of Methusalem himself to a term far short of that which is frequently attained to by the present transient race of mortals! besides, that Moses himself did not calculate by the lunar year the period between the creation and the deluge, is demonstrated, from his so expressly mentioning the

particular *month*, as well as *year*, of Noah's life, on which that deluge took place; for it was "in the six hundredth year of Noah's life, in the second month, and the seventeenth day of that month, that all the fountains of the great deep were broken up." Gen. vii. 12. And again, it was "in the seventh month, and on the seventeenth day of the month, that the ark rested upon the mountains of Ararat," Gen. viii. 4. With respect to the yugs themselves, I conceive there cannot be a stronger proof adduced than they afford of the before cited assertion by Sir William Jones, that in the Indian chronology cyphers are added at pleasure, to swell the periods, than the exaggerated sums of the years of the life of man in the Satya and Treta yugs; and yet there is that gradation in the arrangement of all the four yugs, which evinces a considerable mixture of design and skill in the fabrication of them collectively. I am therefore compelled, by my own hypothesis, to refer the two former entirely to the lunar year, that is, the month of thirty days; or, if the reader prefer rather, to the original division of time by the bright and dark portions of the moon's orb, which seems to have constituted the old year of India; and this will break down to a very moderate amount, for precision is out of the question, that immense aggregate of ante-diluvian time.

It is very remarkable, that the most ancient pagan accounts which have descended down to us, of years *professedly human*, that is, not immediately connected with the greater sidereal revolutions, directly tend to strengthen the hypothesis that refers to the lunar calculation of time, the enormous sum of years above mentioned, Thus, for instance, the period Δωδεκα χιλιαδα μενων,* or twelve chiliads of months, which in the Orphic Argonauts, the ancient race of the Macrobii are said to have lived, when reduced to solar years, amounts exactly to a thousand of them; the venerable Hesiod also, who flourished only about four centuries after Moses, ex-

* Argonaut. v. 1105. Edit. Lips.

pressly asserts, that in the early ages of the world, men were "mere boys at the age of an hundred years:"

Αλλ' εκατον μεν παῖς ετεα παρα μητερι κεδνη
Ετρεφετ'.*

"and still under the guardian care of their fond mothers." The whole of our argument is confirmed by the number of years which, according to Berosus, the ante-diluvian monarchs of Chaldea are recorded to have reigned; and which, understanding the Saros in its true signification, that of three thousand six hundred *days,* instead of so many *years,* upon an average amounts to 150 each.† This sum bears a tolerably just proportion to the average reigns of kings in the present contracted period of human life, which taken one with another, according to Sir Isaac Newton,§ do not exceed the *medium* of twenty years; and probably even that medium is rated too high. Thus singularly concurrent on these disputed topics, the gigantic form and longevity of man, in the earliest æras of the world, are the records of sacred and profane history, mutually upholding and corroborating each other in all the great and striking features of ancient historical detail.

Having traversed thus largely the spacious field of physics, and considered man principally, although not wholly, in his inferior animal capacity, as affected by the influence of the elements and climate, I cannot prevail on myself to conclude this chapter without subjoining a few additional strictures of a metaphysical kind, and relative to the sentiments which the Brahmin philosophers entertain, concerning that more exalted portion of his nature, by which he is distinguished from the brutes, over whom he is appointed by the great Creator of all, the delegated sovereign. That the Indians believe in the immortality of the soul, and its subjection to future rewards and punishments, proportioned to its

* Hesiodi Opera et dies, lib. 1. line 129. † Vide Berosus apud Syncelli Chronograph. p. 18.
§ See his Chronology, p. 52.

merits or demerits in the present state, we have already observed, is demonstrated by their almost general [for it is not an universal] assent to the doctrine of its transmigration, and the purifying penances to which they voluntarily subject themselves, for crimes committed in a state of pre-existence. There is, however, it must be owned, a considerable sect of philosophers in India, in their principles very much resembling the modern Spinozists, who deny that man is an accountable agent, possessing, together with an organized body, an immortal spirit, distinct in its nature and properties; but assert that the mental faculty in man is also material, and commencing its existence with the body, grows to maturity, gradually decays, and finally expires with it. This sect however, bears no proportion, either in numbers or consequence, to that great and respectable body of individuals, the bulk of the nation, who entertain opinions on this head so much more honourable to the human species, and so much more worthy of the Creator.

In fact, the Brahmins, when they observed the miseries and calamities incident to human life, through every successive stage of it, that man comes into his present state with shrieks and tears, and departs from it amidst sighs and groans; when they reflected how many thousands of the human species die in their very infancy; what furious passions harass them in youth, what innumerable cares distract them in maturer years, and what a heavy weight of maladies, rising one above another, in the scale of dreadful aggravation, bows down their declining age; when they considered how inadequate is every finite object to gratify the boundless ambition of man's aspiring mind, and how vast are the powers of that mind when called forth into action, and strenuously exerted; but above all, when, in sublime and unanswerable proof of the soul's immortality, they beheld, as they frequently did, the æthereal, the god-like principle which animates the human frame, most

actively and ardently alive to the noblest sensations of celestial hope and transport, and even endowed with the wonderful faculty of prophecy, at the very moment when that frame, worn out by the unceasing attrition of its component atoms, sinking under the lapse of revolving years, and convulsed with acute pain, or paralyzed with benumbing torpor, was rapidly returning to its kindred dust:—I say, upon proper attention to these various circumstances, and upon due meditation on these important truths, they conceived it would be an insult to divine goodness and wisdom, to suppose that a creature endowed with such excellent qualities, and such splendid and extraordinary talents, could possibly be born solely to act upon so contracted a theatre, and within so limited a sphere, as this terrestrial orb exhibits. To solve the enigma, therefore, and to vindicate the ways of Providence, they invented that fanciful doctrine, which represents the soul in a state of probationary discipline, and the body, as it were the vile prison of the celestial spark, which immediately emaned from the essence of the deity; that deity, who, according to their system of purer pantheism, as a spirit, pervades all nature; and who, to use the language of the Bhagvat, IS EVERY WHERE ALWAYS.* This is the doctrine of the ancient Vedanta school, of which Vyasa, a profound philosopher who flourished in the earliest periods of the world, and who is himself considered in India as a brilliant emanation of the deity, was the founder; and the outlines of it are strikingly apparent in every page of the Geeta, the production of that philosopher; † but especially where the immortal spirit Creeshna, tells Arjun, "both I and thou have passed many births; mine are known to me, but thou knowest not of thine."‡ Hence it is evident, that the Indians believe in the *pre-existence of souls;* and probably that doctrine, which seems to have originated among them, was in after ages, together with many other Indian dogmas, transported by Pytha-

* Asiatic Researches, vol. II. p. 212. † Ayeen Akberry, vol. III. p. 127. ‡ Geeta, p. 51.

goras into the schools of Greece; for the Platonic as well as the Pythagorean philosophers inculcated it on their disciples. Indeed the manner after which the latter discourse, concerning the incarcerated soul in its corporeal dungeon, is so exactly consonant to the language of the Brahmins on the same subject, that they may fairly be referred to the same source. I have observed this strong coincidence both of language and sentiment in the Indian Antiquities; and have cited Porphyry, who was at the head of the later Platonists, as using the language of his master Plato, and expressly denominating this world a dark subterraneous cavern, and the body the gloomy receptacle of the imprisoned soul.*

With respect to the impious heresy of the Buddhas, or disciples of the second Boodh, for it would be the extreme of absurdity to impute the promulgation of doctrines of an atheistical tendency to the elder Boodh, who, by the universal consent of the Brahmins, was an incarnation of the *deity himself;* with respect, I say, to the dogmas of that sect who deny, as did their Egyptian and Greek disciples afterwards, the existence of the soul, distinct from matter; who refer its sublime exertions to physical causes, impossible to produce them; and believe, in short, that the extinction of life in man, is the extinction of his being; they have not made converts, in Hindostan, in any proportion to those of the more rational and exalted nature just alluded to. That a sect, however, in principles resembling the Buddhas, has immemorially existed in that country, is evident from the plain allusion to them in the following passage, in the ancient production of the Geeta. "There are," says Creeshna, "who know not what it is to proceed in virtue, or recede from vice. They say, the world is without beginning and without end, and without an Eswara;" or all-ruling providence. The strenuous advocates for this inglorious and gloomy tenet, who thus resolve the whole phænomena of the universe into the sole

* Indian Antiquities, vol. II. p. 317; and Porphyry de Antro Nympharum, p. 254.

eternal agency of *matter* and *motion,* conceive that cause to be powerful enough, during the vast and successive periods to which an exaggerating fancy has given birth, to produce those stupendous convulsions and revolutions in nature, the alternate deluges and conflagrations, which make a part of their monstrous hypothesis. Plato, indeed, in the Timæus, inculcates a doctrine very similar to this of the Hindoos, relative to the dreadful vicissitudes which the earth undergoes, expressly affirming, " that both the human race, and the globe they inhabit, shall successively perish by water and fire ; " * a doctrine which probably is only a perversion of the great ante-diluvian prophecy, mentioned before as preserved in the family of the Sethite patriarchs ; but, with the physics of Plato, are blended sublimer principles than those which disgrace the Buddhas of India and China ; for while that philosopher allows of the energic operation of *second causes* in the alternate destruction of the world, his writings decidedly inculcate the necessity and the importance of a *first grand cause,* the creator and governor of all things.

Of the elder Boodh, or Buddha, whose incarnation constitutes the ninth Avatar, the reader will soon be presented with the history. It will then be evident that he could not be the source of these nefarious doctrines, which tend to deprive man of the glorious hope of immortality. Of the second Boodh, whose name the Chinese have softened into Fo, astonishing prodigies are related, and such contradictory accounts given, as convince me that his disciples, to do him honour, have artfully blended the two histories ; and confounded together the holy and benevolent personage, who humanely forbade the sanguinary sacrifices of men and beasts on the altars of India, with the guilty parricide, who on his death-bed summoned around him his numerous disciples, and with a dagger, more tremendous than the sacrificial knife, attempted to give the

* Vide Plato in Timæo, p. 1043. Opera.

fatal stab to every hope with which he had inspired mankind, of future happiness and dawning heaven. Incredible as it may appear, the Eastern histories relate, that, after having passed a life of exemplary apparent piety, and in the rigid austerities of penance, by which he gained many thousand disciples, who revered him as a god; when death approached, he addressed them in words to the following effect: "Whatsoever I have hitherto told you concerning spiritual affairs, and a future scene of existence, is nothing more than an ingenious allegory. There are neither rewards or punishments after life. The principle of all things is an immense *Vacuum*; and human existence terminates in annihilation.*

Whether the second Indian Buddha, and the Chinese Fo, be in reality the same deity, according to the learned President's supposition, it may be impossible to determine; but certainly the doctrines of the two sects are not at all dissimilar, for they equally inculcate a life of idolatry, and annihilation at the close. Of the dogmas of the Indian atheistical school, called SANCHIA, this is the summary;—with certain Greek and Roman philosophers, the Sanchia philosophers think that the material atoms which compose the universe, are infinitely diffused through that universe, have existed from all eternity, and will continue to exist; but are incessantly changing their position, and varying their form. From this perpetual fluctuation, from this restless activity of the grand elementary principia, all the wonderful vicissitudes in nature originate; and thus, according to this senseless system, directed by no impulse of a supreme presiding intellect, but urged on by the impulse of blind necessity, and the laws of motion alone, the orbs of heaven revolve, new worlds spring into being, and old ones rush to dissolution.

This doctrine, which sceptical antiquity endeavoured to establish, and modern infidelity labours to support with all the powers of argument and raillery, the same Geeta directly contradicts,

* Du Halde's China, vol. III. p. 35.

insisting "that every thing which is produced in nature, results from the union (not of matter and motion, but) of *Keshtra* and *Keshtragna,* or matter and spirit; for as the all-moving akash (æther) from the minuteness of its parts, passeth every where unaffected, even so the omnipotent spirit remaineth in the body equally unaffected; and as the sun illumines the world, even so doth that spirit enlighten the body." The infamous propagators of it, the divine Creeshna finally anathematises, as "souls lost to all good, and overwhelmed with madness and intoxication. Absorbed in folly, they adopt false doctrines; they persist in their inconceivable opinions; and determine in their minds, that the gratification of their sensual appetites is supreme happiness. Distracted with various thoughts and designs, and being firmly attached to their lusts, they sink gradually into the abyss of impurity. Wherefore I cast down those evil beings, those furious abject wretches, who thus despise me, into the wombs of evil spirits and unclean beasts; and being thus doomed to the wombs of Assoors, or dæmons, from birth to birth, through the stages of the metempsychosis, they descend at length into the infernal regions."*

* Bhagvat Geeta, p. 117.

PART III.

CONTINUING THE

HISTORY OF THE ARTS AND SCIENCES,

OF

THE OLD WORLD;

AND COMPARING

THE MOST ANCIENT SANSCRIT RECORDS WITH THOSE OF MOSES, BEROSUS, AND SANCHONIATHO, ON THE GREAT POINTS

OF

THE FALL OF MAN;

THE LONGEVITY OF THE PATRIARCHS;

AND THE

GENERAL DELUGE;

AS THAT EVENT IS DETAILED IN THE

THREE FIRST INDIAN AVATARS.

ADVERTISEMENT.

I MUST beg the Reader's permission to preface the Third Part of this volume with observing, that the three prior YUGS, in which mankind, though created perfect, are by the Indians supposed to have become gradually more and more depraved, are throughout referred by me to the ante-diluvian æra of Moses. I know of no more rational way of accounting for the acknowledged antiquity of the arts in Asia, and the rapid advance in scientific attainments of the human mind, in those ancient empires of India and Egypt, particularly as to astronomy and architecture, in ages almost immediately subsequent to the general Deluge. The facts hereafter stated, and the deductions made from those facts, rest principally on the foundation of Scripture evidence, and therefore will scarcely be disputed by the orthodox reader. As to readers of a different class, they will probably reject with indignation the contracted system upon which I have proceeded in this ancient historical investigation, and condemn to oblivion, perhaps without perusal, the writer who dares to contradict the whole apparent phænomena of nature, and limits the age of the world within 6000 years.

To the latter gentlemen I can return no answer; but to any candid objection which the former may urge I must reply, that even without the respectable authority of the Hebrew legislator, if the passions and desires of the human race were the same at that period as at present, which can scarcely be doubted, how was it possible to have been otherwise? How was it possible for them, during the long period of 2000 years, which intervened between the creation and the deluge, to cast their eyes on the blue expanse above them, and behold the innumerable host of heaven shining forth in all their glory, through a serene and cloudless atmosphere, without engaging in those astronomical investigations which are the delight of their post-diluvian sons?

Was there no curiosity dormant in the ante-diluvian mind, to induce them to penetrate and explore the internal regions of the immense globe on which they trod, and to spread the adventurous sail on the vast ocean? Were the wise and virtuous Sethites acquainted with no

sublime system of ethics? or, during their prosperous state, before their connection with the impious and lawless house of Cain, had they instituted no just and comprehensive code of national legislation? Could agriculture and pasturage, in all their various branches, be unknown to men whose lives were protracted to so desirable a length, when attended with vigorous health; men, too, ordained to earn their bread by the sweat of their brow, and of whom the lives, thus wonderfully prolonged, were probably passed for the most part under tents in rural occupations? Could a race so egregiously addicted, as were the depraved generations that immediately preceded the flood, to a gross physical worship, be utterly unacquainted with the nature and properties of the elements they adored; or was not the case rather, such as I have stated it to have been, that the accurate survey and intense admiration of the astonishing operations, whether separate or combined, of those grand agents on the theatre of being, the principal cause of the superstitious veneration paid to them? Did not the human heart, formed for celestial harmony, in those most ancient as in these most modern æras, bound with transport at the animating sound of music, whether it were a Jubal, or a Nareda that smote the first lyre?

By the sacred records themselves we are assured, that the ante-diluvians were by no means the savage uninformed race which some otherwise very respectable writers would have us believe; nor does their abandoned profligacy, at the æra immediately preceding their destruction, necessarily imply concomitant ignorance and insensibility. On the contrary, it is not improbable, but that their great refinement in arts and sciences, of a pernicious tendency, and their perversion of the nobler, were the fatal means of detaching their hearts from the great Creator, and of subjecting them to the lash of divine vengeance. I submit the whole with becoming diffidence to the judgment of that benevolent class of readers, who never decide, much less condemn, till they have duly considered an author's *motives*, and fully comprehended the *scope* of his arguments.

CHAPTER XII.

The three prior Yugs *having been proved to have their Foundation in astronomical Calculation, no regular History of the Events asserted to have taken place in them can be expected;—not, however, to be wholly rejected as fabulous, since it is not improbable but that the most ancient Sanscrit Annals may contain the History of some Ante-diluvian Princes, consonant to the Ante-diluvian Records of Moses—The Ten Generations of Berosus, the Chaldean, and of Sanchoniatho, the Phœnician Historian, accord in number, and a variety of Circumstances, with those recorded by the Hebrew Legislator to have flourished between the Æra of Creation and the Deluge—Alorus the first Babylonian Monarch, the same with the first Aurite of Manetho's Egyptian Dynasties, and the Surya of India.* Swayambhuva Menu, *the domestic Appellation of the Indian* Adam*—the Substance of a* Puraun *concerning him and his Family—In the* Soors, *or good Genii of India, are discovered the Mosaic Sethites, or Sons of God; in the* Assoors, *or evil Genii, of gigantic Form and Depravity, the impious Race of Cain—Some striking Features of Similitude pointed out in the Characters of various Ante-diluvian Personages mentioned in the History of Moses and the Brahmins—The Tubal Cain of Scripture, the Vulcan of Egypt, and Agni of India—Seth probably Casyapa; Jubal the Indian Apollo—Sketch of Ante-diluvian Arts and Sciences—The extreme Profligacy of the Ante-diluvian Race, according to the Brahmins, as well as Moses, brings on the general Deluge; that Event detailed in the History of the* Matsya Avatar, *or first Incarnation of* Veeshnu *in the Form of a Fish.*

For having, in the preceding portion of this Work, expatiated so much at large upon the events of æras, so remote from common investigation, as well as of empires so apparently unconnected with

Indian history, and for having taken so wide a range in ancient astronomical details, I must again repeat the apology urged in former pages, that without this ample retrospect, it would be absolutely impossible to form any just comprehension of the dynasties of these most ancient rajahs of the race of Surya and Chandra, or the sun and moon. Let the astonished European investigator of Asiatic antiquities read the following passages extracted from the preface to the Code of Gentoo Laws, and decide with candour upon the method adopted by me, the only method, I presume, possible to render such exaggerated accounts at all intelligible. The author of the famous book of Menu, so often mentioned, which treats of religion and jurisprudence, in these terms asserts the remote period of antiquity in which he himself lived, and in which his production was written. "When ten thousand and ten years of the Satya yug were passed, on the night of the FULL MOON, in the month Bhadun (August), I Menu, at the command of Brahma finished this Sastra, or commentary, which treats of mens' duty, of justice, and of religion, ever instructive." The period of the full moon, here so particularly mentioned, coincides accurately with what we have before inserted from Quintus Curtius relative to the calculations of time by the waxing and waning of the lunar orb; as well as with the subsequent account of Mr. Wilkins, that the Hindoos divide the lunar month into what they denominate the Sookly-paksha, and the Creeshna-paksha, or the *light* and *dark side* of the moon; the former, as observed by that writer, commencing with the new, and the latter at the full moon. The Satya is the first in order of the Indian yugs; in the second, or Tirtah yug, Mr. Halhed informs us, from the same Sanscrit authorities, flourished JAGE BULK, who is mentioned among the first Indian legislators, and whose books, written at that period, are valued for their antiquity, as well as their excellence. The Sanscrit original, consulted by Mr. Halhed, expressly asserts "that in the Tirta yug, the author Jage Bulk, when

ninety-five years were past, in the month of Sawun (July), ON THE MOON'S INCREASE on the Wednesday (Boodh-war, or dies Mercurii,) finished the treatise called Jage Bulk, which sets forth the offices of religion, and also informs men of the duties of the magistrate." In this passage the particular allusion to the period of *the moon's increase,* again plainly points to the mode of lunar computation just explained.

The ingenious author of this preface has long been convinced of the absurdity of these arrogant claims of the Brahmin priests, which can only be explained upon the hypothesis here proposed, the exaggeration of a false and fabulous chronology, which mistakes months for years, and calculates time by the bright or dark halves of the moon. Some shattered fragments, however, of an ante-diluvian genealogy, somewhat resembling that preserved in the Mosaic records, may possibly have been preserved in India, and other Oriental empires, containing the names and history of the first inventors of arts and sciences, and those mighty warlike heroes of the Nephelim race, whose enormous and accumulated crimes, according both to the Hebrew and Indian annals, brought on the dreadful catastrophe of the destruction of the first race of men.

According to Moses, the generations of men from Adam to the flood, were in number *ten:* a circumstance confirmed by the first Pagan authority extant, of which it is proper to take some notice in this place.

Whatsoever original errors may be found in the history of Chaldea by Berosus, the Babylonian priest of Belus, founded, as he asserts, upon authentic records deposited in the temple in which he officiated, or however numerous those added by the obscure glosses of some of his commentators, that history, as explained by Polyhistor, in many points strongly corroborates the Mosaic annals, and is, upon that account, mentioned in terms of high commendation by Josephus. This remarkable coincidence of the two earliest histo-

rians of the world, can only be accounted for on the hypothesis so often insisted upon in these pages, that of traditions preserved in the great patriarchal families relative to those remote æras; and notwithstanding all the errors in Berosus, whether original, or added by translators and commentators, that ancient author may now be referred to with greater confidence, since Sir William Jones has asserted* that the fragments ascribed to him are greatly confirmed by one of the most authentic Persian authors existing, MOSHANI, who has recorded many interesting particulars relative to the history of the first, or Mahabadian dynasty of Persian sovereigns.

Not only the total sum of the generations enumerated by Berosus, between the creation and the deluge, exactly accords with that of Moses, but the history of Xisuthrus, the last of the ten Chaldean monarchs, so minutely answers to that of Noah, as to prove irrefragably both the identity of the persons, and the events that distinguished them. The name of the first Chaldean sovereign, is Alorus, a word compounded of EL and AUR, or the god of fire; the same, probably, as the first Aurite of Manetho's Egyptian deities, and doubtless, the same as Surya, the parent of the solar dynasty of India. Of Surya the seventh Menu, probably the Menes of Egypt, was the immediate progeny, and he has therefore the peculiar epithet of Vaiswaswata, or sun-born: but of the first Menu, or Indian Adam, the descent was far more noble; for he was SWAYAMBHUVA, or the son of the self-existent; a circumstance which seems to prove, that among the most romantic details that ever perplexed a national chronology, they have some scanty fragments of unadulterated history. They soon, however, relapse into romance, by making him the first of their seven imperial MENUS, who, I have already observed, are the mythological sons of Brahma; the enormous reign of each of whom upon earth, is extended by them to a period of seventy-one divine ages, forming

* See his Dissertations on the Persians, in Asiat. Research. vol. II. p. 60.

a MANWANTARA, or four million three hundred and twenty thousand years, multiplied by *seventy-one !!!**

I have had repeated occasion to observe, that amidst all the extravagant mythological details of India, a ray of truth occasionally breaks forth, and in none more than those which have reference to the creation. If their accounts of that event vary, it should be remembered that they believe in a succession of creations, and therefore the chimeras of imagination have been blended with their traditional narrations. The primordial water, however, the chaos, and the darkness of Moses, are never forgotten. The Indian Eden, according to the puranas, formed a portion of the district of Pyag, or Allahabad, that venerated city, situated in the charming latitude of 26 degrees north, where the Ganges and Jumna unite their streams, where for twenty cose (forty miles) round, the ground is at this day accounted sacred; and whence if a man should happen to die there, he immediately ascends to Paradise.† After all, the honour is disputed by some Brahmins in favour of Casi, or Benares, which in the 48th scanda or chapter of the Seeva Puraun is affirmed to have been the first land that appeared above water at the creation; and which, during every mundane deluge, the affectionate Bhagavat supports upon the lofty point of his trident.

SWAYAMBHUVA is stated in the Hindoo annals, to have been the author of the grand code of civil and religious laws, called after himself, the Institutes of Menu, orally delivered by him to his progeny, and afterwards collected into a volume by a holy patriarch, named BHRIGU. Of Swayambhuva's family, little more occurs in the Bhagavat, than what has been before stated; but in the 46th scanda of the Seeva Puraun, the substance of which has been likewise translated by Mr. Halhed, it is related that his eldest son had seven male children, and divided his kingdom, that is the earth among them. One of those children had the empire of Jambud-

* Asiat. Research. vol. I. p. 237.

† Ayeen Akbery, vol. III. p. 256.

weepa for his portion, and from him lineally descended Bharata, the first universal rajah monarch of India, on record, and by whose name the whole country is frequently distinguished in the Purauns and sacred poems. Those seven children having had so many separate kingdoms assigned them, most probably became the heads of so many imperial dynasties; and, together with their predecessors in blood and empire, may constitute the ten ante-diluvian families of the line of Cain, mentioned in Scripture. It is also probable, that these were the giants whose tyranny and crimes contributed to *fill the earth with violence*, that they were in time deified, and became the δαιμονες, or malignant ASSOORS, so celebrated in all the mythological writings of India. That a gigantic race, distinguished as monsters of impiety and lust, is supposed to have actually existed in India during the earliest periods of the world, is expressly asserted in the Bhagavat, in a passage which I shall present to the reader verbatim, on purpose that I may not be suspected of an inclination to bend every thing down to the Mosaic system.

" In the beginning, Brahma had created some beings with evil qualities, but seeing the errors of such creation, he suppressed them. Those beings, however, notwithstanding their short existence, produced fatal effects, in giving birth to several millions of families of giants. The giants created by Brahma, were so extremely vicious, that they wanted to copulate with Brahma himself; and the god, perceiving he was furiously pursued, left the body he had recently taken. This divine quittance gave birth to a girl perfectly beautiful, named Sandia Devi, whom the giants enjoyed."*

By the same authority it may also be incontrovertibly proved, that the memory of a most pure and pious race, in number exactly amounting to that of the virtuous Sethite progeny, is preserved in that country. The nine Brahmas, as they are there from their

* See Sonnerat's Voyages, vol. I. p. 219. Calcutta edition; and the Bhagavadam, p. 78. edit. Paris, 1788.

exalted character denominated, are the race to which I allude; they are a kind of second creation, springing immediately from the heart of the Creator; that is, they were after his own heart, and their formation was the result of the anguish which pierced his soul, for having formed a tribe so abandoned as the race of giants.*

The names of these holy REYSHEES (saints), seven of whom accompanied Menu in the ark, are given in the Bhagavadam, but corruptly; they are, however, correctly inserted below, from Sir William Jones on the Indian Chronology: CASYAPA, ATRI, VASISHTHA, VISWAMITRI, GAUTAMA, JAMADAGNI, and BHARADWAGA.† The names of the two other ante-diluvian sages mentioned in the Bhagavadam, are TAKIN and PIROUGOU, perhaps BHRIGU; and these nine saints were married to nine holy women, the offspring of the patriarch Kerdem, by a daughter of Swayambhuva. This is all the intelligence relative to the *first Menu* which I have yet been able to arrive at: our knowledge of Indian History, in its earliest periods, is as yet very confined; but since all the Pagan annals of Asia corroborate the truth of the Mosaic writings, and since the portion of their history which we do know, is so remarkably consonant to them, there is every reason to think, that when the records of Benares shall have been more fully investigated, by the patient and laudable perseverance of the ingenious Mr. Wilford, curiosity will be amply gratified, and the verity of the Hebrew historian still more conspicuously displayed.

Having previously noticed the analogy of character existing between the Chaldean Alorus, the first Aurite god of Egypt, and Surya, it may not be improper to observe, that a similar parallel may be run between the Egyptian Vulcan and the Indian Agni, or fabricator of the celestial thunderbolts. Vulcan is by some learned etymologists thought to be only the corruption of the Tubal Cain

† For the proof of this assertion, see the Bhagavadam, p. 79.

‡ Asiatic Researches, vol II. p. 117.

of Scripture, who first taught mankind the use of the forge, and who, to use the express words of Moses, was *the instructor of every artificer in brass or arms*. Now, since the inventor of brass and iron instruments became probably the first tyrannical subjugator of his fellow-creatures, we may fairly conclude that the character of Agni has reference to some renowned ante-diluvian sovereign, and most probably to this gigantic descendant of the vicious Cain. According to the Indian mythology, Agni was the forger of the fiery shafts called from him Agnyastra, and he ranks second among their inferior deities. Agni is represented in Indian sculptures with four arms; and the flames which encircle his head, added to the circumstance of his being represented mounted on a ram, one of the symbolical animals of the zodiac, still farther evinces the close connection of their astronomical speculations with the mythological history of the ancient Indians.

I am sensible that the preceding supposition, which etymology and other coincident circumstances warrant, of Alorus being the Scripture Tubal Cain, militates against the conjecture of other able chronologists, that by Alorus is meant Adam; but as no mortal was ever more likely, or possessed a better claim to be exalted to planetary honours than the *first*, our supposition by no means oversets that very rational argument arising from his being placed at the head of the Chaldean sovereigns; all is uncertainty, all conjecture in regard to these most ancient æras; every thing may be proposed, but nothing can be affirmed. Let us proceed to state the names, and consider the very few circumstances recorded of these antediluvian sovereigns in the Chaldean History; adding to this catalogue that of the line of Seth, as it stands in Moses.

1. Alorus.	1. Adam.
2. Alasparus.	2. Seth.
3. Amelon.	3. Enos.
4. Amenon.	4. Cainan

5. METALARUS.	5. MAHALALEEL.
6. DAONUS.	6. JARED.
7. EUEDORACHUS.	7. ENOCH.
8. AMPHIS.	8. METHUSELAH.
9. OTIARTES.	9. LAMECH.
10. XISUTHRUS.*	10. NOAH.

After all, whatever the ingenious writers above alluded to may have conjectured respecting Adam and Alorus being the same person, it is probable that no absolute monarchy existed in the ante-diluvian world, till the mild *primitive patriarchal government*, in which every separate *family* was *governed* by its *own head* or chieftain, had been exterminated by the over-bearing power and violence of some successful usurper; and that character is better suited to Tubal Cain than any other ante-diluvian descendant of Adam. Whosoever he might in reality have been, a very curious circumstance is recorded to have happened in his reign, which bears too great a resemblance to the first incarnation of Veeshnu in the form of *a fish*, to be passed over unnoticed in this history.

Towards the commencement of the reign of Alorus, says Berosus, an intelligent animal,† denominated Oannes, having a form half man and half fish, came out of the Red Sea, and appeared in the neighbourhood of Babylon. This animal conversed with men by day in a human accent, but took no sustenance of any kind; and he instructed them in the use of letters (a proof that the Chaldeans thought letters of ante-diluvian origin) and in various other arts and sciences. He also taught them to associate in cities, and to erect temples to the gods, he initiated them in the principles of legislation, and the elements of geometry. He shewed them how

* Vide Africanus in Syncelli Chronographia, p. 18.

† The text of Syncellus has ζωον αφρενον, an irrational animal; but that epithet is inconsistent with its character and office, which was to promulge science and enlighten mankind. Dr. Jackson, therefore, very properly proposes to read ζωον ευφρος, *animal sapiens*.

to practise botany and husbandry; and he reformed and civilized *the* first rude and barbarous race of mortals. He also wrote concerning the origin of things, and the creation of the world; it was the custom of this amphibious being at sunset to plunge again into the ocean, and remain all night in the deep.* The word Oannes at least so far as Greek etymology is concerned, is deduced from *ωον*, an *egg*; and this first Oannes, for there were several who successively appeared in the ante-diluvian ages, probably sprang, as Brahma did, if he were not the very same person, from the mundane egg that floated on the chaos. Indeed Helladius † expressly says, "Oannes sprang from the *primogenial egg*," and his beneficent conduct as the friend, the instructor, and reformer of mankind, evinces the connection of the character. In fact, both have immediate allusion to the Deity, in one of his imagined incarnations of a subordinate kind, agreeable to the system of Eastern mythology and divine emanations, for in that mythology a god is never wanting; and patriarchal traditions concerning the deity and his angels conversing with Adam in Paradise, might have given birth to the fanciful hypothesis. It is sufficient to have marked this feature of affinity between the egg-generated deity of India and Chaldea. My principal object, however, in comparing their history, was to notice the very striking similitude between the appearance of Oannes, with the body of a fish, and the head, feet and hands of a man, and the incarnation of Veeshnu in the Matsya Avatar, as engraved in this volume. As there are seven distinct appearances enumerated in Berosus of this Chaldean Dagon, as he is afterwards denominated on his seventh and last visit to the plains of Babylon, so may not the deity in the earliest ages have repeatedly assumed the *Matsya* form, though with more than usual splendour and publicity on the awful catastrophe of expiring nature at the general deluge?

* Syncelli Chronographia, p. 29. † Helladius apud Photium. Bibl. Cod. 279, et Col. 1594.

That remarkable portion of the Chaldaic ante-diluvian history which relates the particulars of the appearance of the divine being to Xisuthrus, and his commanding him to prepare a vessel for the preservation of his family, and the various tribes of animals, must be reserved for consideration under the head of the Matsya Avatar; and I shall for the present conclude these strictures upon the fragment of Berosus, by observing that the 120 sari which these princes are said to have reigned, if the saros be considered as comprehending a period of 3600 years, as Abydenus would persuade us, amount exactly to the sum of 432000 years, that celebrated period in the Hindoo chronology upon which so much has been previously descanted, and which, with the affix of a cypher, which the Hindoos can add at pleasure, gives us the total aggregate of the four yugs, or A GREAT AGE.* If, rejecting this enormous computation, we take the saros, after the more moderate and rational statement of Polyhistor, at 3600 days, they amount only to 432000 days, which make 1200 Chaldean years, and this sum will be found remarkably coincident with the Mosaic ante-diluvian account of time; whether we incline to the Hebrew chronology, or to that of the Septuagint, since several hundred years may justly be presumed to have elapsed before tyranny and usurpation erected their throne on the ruins of the primitive patriarchal form of government.

In Sanchoniatho's Phœnician genealogy of ante-diluvian princes, which it is also very remarkable consists of exactly ten generations, and is supposed to exhibit the succession of the line of the impious Cain, the Indian deity Agni is again recognized in CHRYSOR, a word which, according to Bochart, signifies *an artificer in fire*. However variously denominated and confounded as to order of time and rank, the prototypal character in Moses is plainly traced in most of the ancient Pagan chronicles of Asia; and in none more plainly than

* See the result of Sir William Jones's and M. Sonnerat's elaborate calculations, in former pages of this history.

in this ancient fragment of Phœnician history, which therefore deserves from the Eastern historian particular notice. Bishop Cumberland has commented at large upon this historical record: from whose work the reader is presented with the following table, and with the Greek names as they stand in Eusebius, because his comment will be most intelligible, when those names are before him.

Cain's line in Sanchoniatho.

1. Πρωτόγονος, Αιών	1. Adam
2. Γένος, Γενεά.	2. Cain.
3. Φῶς, Πῦρ, Φλόξ.	3. Enoch
4. Κάσσιος, Δίβανος.	4. Irad.
5. Μημρȣ̃μος, Ουσῶος.	5. Mehujael.
6. Αγρευς, Αλιευς,	6. Methusael.
7. Κρυσὼρ ὁ καὶ Ηφαιστος.	7. Lamech.
8. Τεχνίτης, Γήινος.	8. Jabal, Jubal, Tubal Cain.
9. Αγρὸς, Αγρȣ́ηρος.	9. Noah.
10. Αμυνος, Μάγος.	10. Ham.

That by his Πρωτγονος, or first sovereign of this Phœnician dynasty, Adam must be meant, is as clear a fact as that Noah is discovered in his ninth, or Αγρȣηρος, the husbandman; and in his son, Αμυνος, Ham, or Hammon. Sanchoniatho, according to Cumberland, wishing to establish a system of atheistical cosmogony, conceals the event of the flood, and derives Noah in a direct line from Cain, that he may carry on the genealogical descent to Ham, Misor, and Taut: the last of whom was the immediate founder of the Phœnician empire. In a pagan genealogy of this kind, it would be absurd to expect order unviolated and the blood unmixed. That excellence belongs alone to the inspired writer; but the great lines are visible, the principal characters are marked and prominent. Thus could any possible doubt be entertained that

this Πρωτογονος, or *first born*, was Adam, the circumstance of his wife being denominated Αιων, a word signifying life, like *Heva*, and her being said by Sanchoniatho to have been "the first that found out the food which is gathered from trees, would infallibly direct our eye to the deluded mother of mankind.* The bishop discovers Cain himself and his wife, in the Γενος and Γενεα, which stand second in order in the Phœnician genealogy, since he observes the Hebrew term for Cain can scarcely be translated by any other Greek word. The Indian title and character of AGNI may possibly have some relation to this ante-diluvian sovereign of Phœnicia: for of the first grand idolater before the flood, what description can possibly be more accurate than the following, given of the two personages just named? "of Πρωτογονος and Αιων were begotten Γενος and Γενεα: (Cain, and Caina, his wife) and when great droughts came, they stretched forth their hands to heaven towards the SUN, for him they thought the only lord of heaven, and called him Baalsamin.†" The immediate progeny of Γενος, in this genealogy, gives us an insight into the true character of that father, who was afterwards adored in the place of the orb he had idolized; for they were "Φως, Πυρ, et Φλοξ, Light, Fire, and Flame." These, says our author, "found out the way of generating fire, by the rubbing of pieces of wood against each other, and taught men the use thereof."‡ It was probably in consequence of their respectively inventing arts and sciences, connected with those three wonderful agents in the physical world, that mankind in return gratefully conferred on them titles which, in the Oriental tongues, marked them as fabricators, and which might not in those tongues have appeared so uncouth as they do in the Greek and English translations.

The above is a very remarkable pedigree, and in its outlines is so exceedingly consonant to that of Vaivaswata, the seventh, or

* Cumberland's Sanchoniatho, p. 23. † Ibid. 24. ‡ Ibid.

sun-born Menu, who is no other than Noah, that I cannot avoid *citing* it, as it stands in the dissertation of Sir William Jones on the Indian Chronology; for this personage was the son of Surya, the son of Casyapa (the Indian Uranus, and, as I conjecture, the Mosaic Seth), who was born of Marichi, light, who was the son of Brahma. Both pedigrees are apparently allegorical, and should not have been noticed in this history, did we not know how generally the fulsome adulation of the East confounded the real and fictitious hero of its tale; for Casyapa was doubtless a Brahmin, who flourished in the earliest ages of the world, invented the Indian system of astronomy, and formed its zodiac; himself being immortalized, though in a female form, and in a different mythology in the Cassiopeia of our present sphere, one of the oldest of the constellations.

Through the confusion and obscurity already remarked to pervade all the ante-diluvian genealogies of the East, I shall by no means attempt to pierce farther than to shew a striking similitude of feature in the leading characters, and an occasional ray gleaming amid the darkness of that barren void. The history of the two great lines of Cain and Seth are evidently and inexplicably involved, yet the vestiges of facts recorded in the short chronicle of Moses, are at intervals clearly discernible to the persevering scrutiny of the historian. In the Indian Agni or Γενος we have found Tubal Cain, if not Cain himself; probably both those Nephilim may be alluded to under that character, the first forger of military instruments, the earliest tyrant of the world. Let us explore the ante-diluvian annals for another distinguished, but less formidable personage.

Far different from the occupations of the impious and warlike progeny of Cain, were those of the line of the virtuous and peaceful Seth. If traditions, descending uninterrupted down from the earliest ages to the Hebrew patriarchs, may be credited, this venerable sage and his family were incessantly engaged in the nobler pursuits of philosophy; that genuine, that sound philosophy, which

Adam, his sire, had been taught by his great Creator, and which traces the Deity amidst the brightest of his works, the wonders of the starry heavens. Regardful of his wise progenitor's prediction, that the existing world was to undergo two grand dissolutions, the one by a deluge of water, the other by the eruption of subterraneous fire; addicted also to that better species of astrology, which consists in diligent observations of the great phænomena of nature, and fair deductions from them of consequent vicissitudes, he devoted the period of his prolonged life to the unwearied contemplation of the celestial orbs, and inscribed the result of his astronomical researches on those two mighty monuments of brick and stone, concerning which we have treated in a former page, fondly hoping they would survive the shock of agonising nature. From the great antiquity, the purity, and the philosophical character of the amiable and holy patriarch Casyapa, who was one of the seven Reyshees, or divine sages, who went with Menu into the ark fabricated by the command of Veeshnu, and who, doubtless carried thither with him his astronomical apparatus and observations; I conceive the Indians, under this name to have commemorated the Seth of Moses. There is no character in all the annals of the ancient world so deserving of the honour of that appellation, and I am confirmed in my opinion by various collateral circumstances. We have seen that Casyapa, in their mythology, was the son of Marichi, light; that is to say, he was a diligent observer of the heavenly bodies, and explored the regions of etherial light. Now it is surely not a little singular, that in the Phœnician genealogy the progeny enumerated next in order to Φως, is Κασσιος. The words of Sanchoniatho are: "These men, Φως, Πυρ, and Φλοξ, begat sons of vast bulk and height, whose names were given to mountains on which they first seized; that is, in all probability, took up their abode; mountains which from them were named Cassius, Libanus, &c."* Our Indian Cassius observed the heavens on the

* Cumberland's Sanchoniatho, p. 24.

heights of Caucasus, and if he gave his name to any mountain, it must have been Caph, or Caucasus; a mountain full as celebrated for being the scene of astronomical researches in Asia, as mount Atlas in Africa, which gave its name to the supposed inventor of the Grecian sphere; it is probable, however, that Casyapa, whether an ante-diluvian, or post-diluvian, was the only genuine Atlas of antiquity; for how otherwise came the names of the most conspicuous of the constellations, both in and out of the zodiac, to be inserted, as Sir William Jones affirms they are, in Sanscrit books of the most remote antiquity?

Waving, however, every argument resulting from the similitude of names, which I own is a very weak basis for historical decision to rest upon, nor is it here intended as such, yet in these remote inquiries not wholly to be rejected; and supposing Cassius to be of Cainite origin, one of the giants of Moses, sprung from the junction of the *sons of God* with the daughters of men, a supposition which the assertion respecting their *height* and *bulk* seems to justify, how remarkably are the Mosaic records confirmed by the whole of this description of this mountain-born gigantic progeny. When, in addition, we consider that in the succeeding page of Sanchoniatho, it is said the mothers of these giants were of that "abandoned class of women who, in those days, without any shame, prostituted themselves to any man they met;"* which shews the increasing depravity of mankind in such exact consonance to the account of Moses, *that all flesh was corrupt before God*, Gen. vi. a conviction of the veracity of the historian of the Hebrews, enforced upon us from a quarter so hostile and so unexpected, irresistibly seizes the mind, and we necessarily bow down to the superior authority of divine inspiration.

Mr. Wilford, who may justly claim the honours of a double laurel, that of war and science, in his elaborate Essay on Egypt and the Nile, which I deeply regret the not being possessed of, till

* Cumberland's Sanchoniatho, p. 25.

between three and four hundred pages of this volume were printed off, and in the second section of that essay, which demonstrates him to be a master of Asiatic mythology, informs us of a fact very important in this historical investigation. He affirms that there exists in India a race of philosophers, who nobly spurn the puerile ornaments with which the Brahmin allegorists deck their histories, and admit "no incarnations of deities; but insist that the DEVAS were mere mortals, whom the Supreme Being was pleased to endue with qualities approaching to his own godlike attributes; and that the Hindoos in general perform acts of worship to some of their ancient monarchs and sages, who were deified in consequence of their eminent virtues."* To this assertion I appeal in vindication of that part of my hypothesis which aims to rend the veil of multiform mythology from a race the most remote in the annals of antiquity, and display in India the prototypal characters celebrated in the ante-diluvian world. The ground is utterly uncertain and often fallacious; I shall advance with cautious footstep, and leave the rest to the candour of the reader. But before I can proceed farther in these comparative strictures on ante-diluvian characters, another author of very high, but possibly not very merited rank in antiquity, deserves our cursory notice.

After what has been so extensively observed concerning the credit due to the Egyptian dynasties by Manetho, in a former chapter, I should have forborne to weary his patience with any additional remarks on a genealogy so clearly astronomical, were it not for this peculiar circumstance, that the number of god-kings who constitute the first, or Aurite dynasty, beginning at Vulcan and ending at Typhon, the derivation of which word from the Arabic, al tuphon, deluge, has been before noticed, amounts precisely to *seven*, which is the exact number of the Menus of India, reigning from the creation to the flood. That dynasty is here subjoined also for the

* Asiatic Researches, vol. III. p. 374.

reader's inspection, from the Chronographia of Syncellus,* with the *periods* during which they are fabulously said to have reigned; periods far less extravagant indeed than those allotted to the Indian Menus, but absolutely incompatible with all human computation. Each Menu is, in fact, a CYCLE.

THE FIRST, OR AURITE DYNASTY OF THE EGYPTIAN GOD-KINGS.

1. VULCAN, reigned 9000 years.	1. SWAYAMBHUVA MENU, or ADAM.
2. HELIUS, reigned 30,000.	2. MENU.
3. SATURN. } The reigns of these	3. MENU.
4. JUPITER. } two planetary deities were probably the long zodiacal revolutions of their respective orbs.	4. MENU.
5. OSIRIS and ISIS.	5. MENU.
6. HORUS.	6. MENU.
7. TYPHON.	7. SATYAURATA MENU, or NOAH.

The reigns of the five latter deities are not specified, but Diodorus expressly says, that the reigns of the Egyptian gods from that of the sun to the period of the conquest of India by Alexander amounted to the sum of three and twenty thousand years.† This is evidently an idle tale forged by some Egyptian hierophant, to flatter the vanity of the Macedonian sovereign after his subjugation of Egypt; and very similar to that related by Arrian in Indicis,‡ that from Bacchus to Sandrocottus the Indians enumerated one hundred and fifty-three monarchs, whose reigns took up the space of six thousand and forty-two years. With respect to

* Page 51. † Diodorus Siculus, lib. 2. p. 156.

‡ Arriani. Hist. Ind. p. 325. Edit. Gronovii.

the number of kings who might have reigned from Bacchus to Sandrocottus, the account is probable enough, and the sum of the years of their reign is comparatively modest *for India;* but we must leave the full examination of this question, and that more important one, who the Indian Bacchus really *was?* to a future chapter of this history.

Of the five Indian MENUS who reigned between Adam and Satyaurata, Sir William Jones informs us that he has as yet seen little more than the names,* and unfortunately with those names he has not favoured us: the blank therefore in the Indian catalogue must be filled up hereafter. The characters in the Indian Mythology corresponding with those in the above astronomical dynasty, have been already pointed out; for Vulcan is Agni, or elementary fire; Helius is Surya, the sun; Saturn is Sani, the planet of that name; Jupiter is either the Indra, or Divespiter of the Indians, or the planet Vrehespata personified; Osiris and Isis are recognised in Eswara and Isa, that is, the active and passive principles in nature, respectively exerting their powers and influence; Arun, the charioteer of Surya (otherwise Aurora, or the dawn), plainly reveals to us the African Horus; for both words, as well indeed as Aurora, have undoubtedly affinity to the Chaldaic radix, AUR, lux: and the Egyptian Typhon appears to be no other than Mahadeva in his *destroying capacity*, he who brings on the alternate conflagrations and deluges, in which character he is considered in either country as a being equally tremendous and abhorred. In short, he is a personification of TIME, the grand destroyer of all things, and obelisks and columns are therefore his constant emblems; at once marking out, by their declining shadow, his progress through the vast circuit of desolated nature, and by their phallic form and decorations, his regeneration of objects in the course of ages, which they suppose eternally to be revolving.

* Asiatic Researches, vol. II. p. 117.

It is impossible to believe that so profoundly wise and reflecting a nation as were the Egyptians, could conceive the world to be governed by no supreme presiding numen; and therefore when, in the previous passage just alluded to, I asserted Vulcan to be that supreme numen, I only followed the interpretation of Cudworth,* who justly contends for a more enlarged interpretation of that title, intimating that the more sublime philosophers of Egypt understood by it the *fiery soul of the world*, which the Greeks afterwards literally translated by ψυχη κοσμȣ. I am also anxious to explain another apparent inconsistency in that passage, which affirms that no period was assigned to the reign of Vulcan, as being the supreme God, whose "dominion extends through all ages," and in fact, in the part of the old chronicle† there alluded to, inaccurately stated by Syncellus, no reign is assigned to Vulcan the father of the gods, *because*, says the original, *he shines by night as well as by day;* but in a succeeding passage ‡ Syncellus expressly informs us that Manetho computed the reign of Vulcan at nine thousand years. Whatever various opinions they might entertain concerning their supreme deity is of little consequence in this argument, but if they exalted Tubal Cain to that distinguished eminence, they doubtless invested their deified hero with all the attributes and perfections appertaining to the character.

I promised before the conclusion of the present chapter, in conformity to the plan laid down for the conduct of this work, to present the reader with a sketch of such arts and sciences as may reasonably, and without exaggeration be presumed to have been cultivated by the ante-diluvian race of men; and I now proceed to perform that promise, as far as the few resources within our reach, and the slender accounts of sacred and profane writers on the subject, will permit the detail. That the ante-diluvians were

* Cudworth's Intellectual System, vol. I. p. 489.

† Syncelli Chronograph. p. 18

‡ Ibid. p. 51.

not totally ignorant of Astronomy, and the mode of computing Time by calculations of the periods of the heavenly bodies, has been proved by a variety of arguments which need not be here repeated. The dire necessity imposed on man after the fall, of earning his bread by the sweat of his brow, implies also a knowledge of Agriculture, to which it is probable the portion of astronomical science acquired by them was principally applied. But let us ascend higher in the scale of events, and once more pierce to the fountain of human existence and human arts.

A few traditionary particulars concerning the great progenitor of mankind have already been presented to the reader, as well from the annals of India as of other Oriental empires: to complete the portrait, some additional strictures on his possible attainments in general science, not wholly founded on idle traditions, are here subjoined for his farther consideration.

Without admitting all the romantic assertions of the Rabbies, before condemned, in respect to the inspired wisdom and innate science of Adam, it will be readily acknowledged, that he who had the whole expanded volume of nature before him, with the finger of Omnipotence to direct him in the research, must have been, as he was the first, so also the greatest of ante-diluvian philosophers. He in particular who was able to give names to all the animals that passed in review before him, according to the qualities which he had observed them to possess, must have made no small progress in Zoological Science, and his posterity during the course of their prolonged lives, in chasing the wild beasts of the desert, and clearing the vast forests of the old world—forests coeval with the creation—for culture, could scarcely fail of very widely extending their knowledge of animated nature. Adam, situated in a lovely garden, and also the first tiller of the ground, could not be unacquainted with the virtues of herbs, plants, and all the rich varieties of the vegetable world. This supposes no small progress in the Medicinal

Art, that is, in the simplicity with which it was anciently practised; and the limits of his possible advance in Mathematical Science, have been already rather extensively discussed in a preceding page. As the Indians assert their first Menu to be the author of the moral and civil institutes which bear his name, and which Sir William Jones is at this moment employed in translating, so do the Hebrew doctors ascribe to Adam various compositions on the subject of Ethics, Theology, and Legislation, as well as a book on the creation of the world, which he bequeathed to his posterity; and which together with the book of Seth and Edris, as the Arabians denominate Enoch, were deposited in a chest, which many centuries after the deluge was found by the patriarch Abraham, in the country of the Sabians.* This information is given us by Stanley, out of the old Chaldean and Arabian authors, in the following passage: " Kissæus, a Mahomedan writer, asserts that the Sabians possessed not only the books of Seth and Edris, but also others written by Adam himself; for Abraham, after his expulsion from Chaldea by the tyrant Nimrod, going into the country of the Sabians, opened the chest of Adam, and behold! in it were the books of Adam, as also those of Seth and Edris; and the names of all the prophets that were to succeed Abraham."† I should scarcely have thought it worth while to have noticed this legend, after my former censure of these Rabbinical vagaries, did it not bear considerable resemblance to another legend related by Berosus, and of which it is probably the copy, concerning certain writings asserted to have been composed in ante-diluvian periods by Xisuthrus, at the command of the Deity, and buried at Sippura, the city of the sun in Babylonia; which writings, according to Berosus, were actually dug up after the flood by his posterity, and preserved in the metropolis of Chaldea.‡ It was from these writings deposited in the temple

* Stanley on the Oriental Philosophy, lib. 3. cap. 3. p. 36, edit. fol. 1701. † Ibid.

‡ Syncelli Chronograh. p. 13.

of Belus at Babylon, that Berosus copied the outlines of his history of the ante-diluvian sovereigns of Chaldea.

Of Seth, the virtuous and scientific son of Adam, and his resemblance in character to the Indian Casyapa, the first of the race of Brahmins, a distinction which is universally allowed him, enough it may be thought has been recently said: but there is a curious piece of mythological history occurring in Indian books, concerning the latter holy patriarchal Brahmin and his two wives, called Diti and Aditi, which is so manifest a perversion of the Scripture history of Eve and the Serpent, that after having dismissed the present retrospective discussion relative to ante-diluvian literature, I shall easily be pardoned for prolonging this chapter with the interesting relation of it.

It may, I think, fairly be concluded, that all those Indian personages who flourished in the first yug, or period of the world, and are called the immediate progeny of Brahma, if not wholly allegorical beings, a circumstance only to be decided upon by an attentive consideration of their history, were ante-diluvians, and to that number, therefore, I refer NAREDA, the author of the Indian system of Music, who was the son of Brahma, by his wife Saraswatty, the goddess of eloquence. Nareda invented the Indian vina, or testudo, and in "truth," says Sir William Jones,* he was an ancient lawgiver and astronomer:" and he accordingly compares him to the Hermes of Egypt. Now according to the express words of Scripture, Jubal was *the father of all such as handle the harp and organ*, and he was probably the original Apollo of the East, a circumstance which that title, derived from *ab, or ap*, father, and the Assyrian *pul*, or lord, seems plainly to prove. I consider Nareda therefore as either Jubal himself, or if the Indian character be merely allegorical, as that patriarch concealed under the veil of mythology. The orientals indeed seem to have entertained very early and very high

* Asiatic Resarches, vol. III. p. 67.

conceptions of the amazing power of music, since they make the union of the human body and soul to be the result of the energies of harmony. It is related by Chardin out of the traditionary books of the ancient Persians, that after God had formed man of earth, the soul, which emaned from the divine essence, shewing reluctance to enter its terrestrial habitation, the angel Gabriel soothed and cheered the celestial wanderer, by making melodious measures, and at length she entered her place of sojourning, by the sound of the flagelet.*

Jabal, the son of Lamech, is said to have been *the father of such as dwell in tents, and of such as have cattle ;* that is to say, he was the inventor of whatever appertains to the art of pasturage ; of making tents for the shepherd, and folds for the flock. Abel indeed had preceded him in this occupation, but Jabal brought it to perfection : in Jabal, therefore, we clearly perceive the prototype of the rural Pan, the Apollo Nomius of the Greeks, and the Creeshna o India, in his pastoral character at Mathura. In this character Creeshna bears the title of GOPAL, which in Sanscrit means literally a *herdsman ;* but whether this word has any relation to Jabal, as its apparent resemblance in European characters seem to intimate, as well as a circumstance forgotten to be mentioned by me before, whether the Hebrew ISCHA, which Stillingfleet says the Rabbinical books assert was the name of the mother of mankind, before Adam altered it to Eve, † may not have been the original whence the Indian Isa, and the Egyptian Isis were derived, must be left to the determination of others. It may here pertinently be remarked, that the art of pasturage could not fail of being well and early understood in India, since, by the law of Brahma, a fourth part of the nation are doomed to be shepherds and husbandmen from their birth.

* Voyages de Chardin, tom. III. p. 179.

† See his Origines Sacræ, p. 551 : and Patrick on Genesis, iii. 20.

Among the arts flourishing in the ante-diluvian world, on the authority of Josephus, may be reckoned Architecture, of the existence of which we have recorded proof in the columns of Seth, the one of brick, the other of stone, erected as a barrier against the incursions of an apprehended deluge, to perpetuate the principles of a still nobler science, Astronomy. These monuments of their architectural skill he reports to have survived that event, of which assertion although we have shewn the probable fallacy, the fact of those pillars being erected *appears* to remain unshaken; and that these inscriptions were cut deeply into stone, probably in hieroglyphic symbols, argues also some advance of knowledge in the elegant arts both of Sculpture and Engraving. Indeed the remote æra of antiquity to which the oldest hieroglyphics cut on the granite columns of Egypt, and the characters engraved on the written mountains of Arabia, are referred to by the best writers, approaches so near to that of the flood, that it is scarcely possible to suppose both the design and exact execution of them not to be the result of ante-diluvian wisdom, descending to the Egyptians and Arabians by the channel of Ham, or Cush. The Arabians indeed, according to Murtadi, preserve among them to this day traditions derived to them from a very ancient Coptic source, that the pyramids themselves, those wonderful structures, planned and executed on the best geometrical principles for duration, were built three hundred years before the deluge, by an ante-diluvian prince of the name of Saurid, on account of the rapid approach to completion of Seth's prophecy relative to the inundation of the globe.* But though suppositions of this kind are not admissible, no more than those of some modern authors, who consider the stupendous remains of stone buildings of inconceivable magnitude, and colossal statues discovered in the new-found world, as of ante-diluvian fabrication,

* See Murtadi's Egypt, translated from the Arabic by M. Vatier, p. 30. duod. London, 1672.

they serve to mark the immense antiquity of architectural science. In a sentence preceding, I have used words "*appears* to remain unshaken," because without conferring upon the Sethites honours that possibly may not be due to a line that aspired to nobler distinctions, we have still sufficient evidence of the existence of this art in the ancient world; for independent of this circumstance, we know that the ante-diluvians must have been rather extensively acquainted with architecture, since Moses himself informs us that Cain, when he *went out from the presence of the Lord, dwelt in the land of Nod or Naid* (a word signifying *to wander*), and there *built a city*, which he called by the name of his first-born, Enoch. On this subject of ante-diluvian science, the excellent Sir Walter Raleigh has a very judicious observation relative to the invention of so many arts useful to the purposes of life, by the race of Cain; he intimates, that as the latter were a progeny addicted to earthly pursuits, pleasure, and ambition, the arts of Music, Agriculture, and working of Metals, were properly ascribed to their invention; while in the celestial offspring commenced the more exalted sciences of Divinity, Prophecy, and Astronomy: the children of the one beheld the heavens, the children of the other, the earth.*

But as the ante-diluvians had these ideas of masonry and sculpture intimately connected with architecture, so must they also, in some degree, have been acquainted with the principles of Naval architecture and Navigation, or the ark in which Noah was preserved, and the vessel in which the seventh Menu or Satyaurata sailed, under the guardian care of Veeshnu, could never have been built; for though in forming the proportions of these sacred vessels the fabricators confessedly followed the commands of the respective deities, who enjoined the erection of them, yet it cannot reasonably be supposed that every plank was laid, and every joint fitted by immediate inspiration. Romantic as the sentiment may appear,

* Sir W. Raleigh's History of the World, p. 44. edit. 1676.

I am also inclined to think that the powers of the Magnet were not wholly unknown to our ante-diluvian ancestors, and probably, by the use of it, as a secondary means under divine Providence, Noah was enabled, his dreadful voyage over, to regain that temperate Chaldean region, which we have proved was the happy abode of the ante-diluvian patriarchs. The invention of the loadstone has been thought a modern discovery, and as such has been mentioned by me; but a more attentive perusal of Dr. Hyde inclines me to believe that the Chaldeans and Arabians had immemorially made use of it, to guide them over the vast deserts that overspread their respective countries;* and, according to the Chinese records, the emperor Ching-vang, above a thousand years before Christ, presented the ambassadors of the king of Cochin-China with a species of magnetic index, which, says Martinius, "certe monstrabat iter, sive terra illud, sive mari facientibus." The Chinese, he adds, call this instrument CHINAN: a name by which they at this day denominate *the mariner's compass.*† In respect to the Indians, there can be little doubt of their having been as early acquainted with the magnet, as the earliest of those nations whom their gems and rich manufactures allured to their coast, and whose shores they themselves visited in return: and that they were in the remotest æras, engaged not less than the Phœnicians in projects of distant commerce and navigation, which cannot be extensively carried on without a knowledge of the magnet's powers, I have this strong and curious evidence to produce; for in the most venerable of their sacred law tracts, the Institutes of Menu, that is the first, or Swayambhuva Menu, supposed by the Indians to have been revealed by that primeval legislator many millions of years ago, and to which in fact, after mature deliberation, Sir William Jones cannot assign a less ancient date than one thousand or fifteen hundred years

* See Hyde de Religione Veterum Persarum, p. 189.

† Martinius, Hist. Sin. p. 106.

before the Christian æra, but which is probably a far superior traditional antiquity, there is a curious passage on the legal interest of money, and the limited rate of it in different cases, "with an exception in regard *to adventures at sea.*"* At all events, I shall hope hereafter to prove the magnet to have been of very ancient use in Asia, and the knowledge of it was probably the gift of Noah to his posterity, who settled on the coast of Phœnicia; for without that gift it was impossible for them to have explored, as tradition and history prove they did, in the earliest æras, the most distant quarters of the habitable globe. If, however, the first race of men should not even partially have been acquainted with the use of the compass, that attention with which their prolonged lives enabled them to mark the periodical revolutions of the heavenly bodies, would probably have led them to the invention of such a simple instrument as the marine astrolabe, by which the altitude of the pole, and the stars most useful in navigation, might have been taken at sea, and their course regulated accordingly.

That the elder Buddha of India is, in fact, the elder Hermes of Egypt, no doubt remains with me, no more than that the original character is of ante-diluvian race, a conjecture which the high rank in antiquity assigned them by the writers of both nations, greatly corroborates. It is the opinion of many learned mythologists who have trodden ante-diluvian ground, that by the peculiar and distinguishing marks of scientific excellence which characterize the Egyptian Hermes; viz. his invention of letters, and those innumerable treatises which he is supposed to have written on theology, astronomy, chemistry, geometry, and other branches of natural philosophy, all which were solemnly borne in procession, as venerable fragments of antiquity, by the hierophant in the pomp of Osiris and Isis, the patriarch Enoch is unequivocally pointed out: especially since he is expressly said by Mantheo to have flourished

* See vol. I. p. 429, and vol. II. p. 371.

before the flood, and to have inscribed in sacred characters the principles of the ante-diluvian astronomy on certain columns erected in the land of Seriad.* The Jews and Ethiopians have a book of ancient traditions, which they hold in the highest estimation, and consider as the production of that holy patriarch, to whom they affirm "the archangel Uriel, who presides over the stars, by the command of God, revealed the months, the tropics, and the year."† Hence, in Jonathan's Targum, ‡ Enoch is called the great scribe; and he also, like his ancestor Seth, is said to have engraved on pillars prophetic and astronomical predictions relative to the final εκπυρωσις, or purification of the world by fire; to which indeed direct allusion is made in Jude, where, speaking of the final conflagration and judgment, that apostle says, *and Enoch, the seventh from Adam,* PROPHESIED *of these things*, v. 14. This evidence of the actual existence, in ancient times, of such a book is very pointed and decisive. That book, therefore, though considered as blending many fables with some very ancient and generally received traditions, by no means wants vouchers for its authenticity. Mr. Bruce, in fact, brought three finely illumined copies of it from Abyssinia, and a variety of evidence proves it to have been in being long before the Christian æra, for Eupolemus, an ancient Jewish writer, mentioned in Eusebius § as living at the time the Septuagint was undertaken, alludes to the book of Enoch, when he says "Enoch was instructed in all things by the angels, and through him we received the knowledge of them;" || and it is also cited by Alexander Polyhistor, a writer who flourished about ninety years before the Christian æra, and from whom Syncellus has preserved so many ample extracts. There the sons of Seth are called the Egregori, and are said to have been the inventors of all arts and sciences; having

* See Chapter 2. preceding.

† Liber Enoch, apud Syncellum, p. 33.

‡ Targum on Genesis, v. 24.

§ Eusebii Præp. Evang. lib. 9. cap. 17. p. 419.

|| Syncelli Chronograph. p. 13.

been *instructed* in them during their innocent state, before their communication with the Cainite progeny, while they resided in the holy mountain, by the angels of God.* The Greek Christians, and all the ancient Arabian writers, according to Abulfaragius, supposed Enoch to be the first Egyptian Hermes; the latter, as was before remarked, called him Edris, an Arabic word signifying *a profound investigator of occult science;* and this Beidavi, a learned Arabian commentator on the Koran cited by Hottinger, expressly confirms; "Enoch," says that writer, "is called Edris, on account of the variety of the sciences in which he was skilled; for the Most High delivered him down thirty volumes. It is also affirmed he was the first calamographer, versed in astronomy and arithmetic."† The same Arabian Kissæus, from whom the reader has been presented with a fragment cited by Stanley, concerning this famous Edris of the Orientals, whom, however, he makes a descendant of Enoch, writes thus: "Edris, on whom be peace, was the first who after Enoch, the son of Seth, the son of Adam, wrote with a pen. This art Edris afterwards taught his sons, who ceased not to possess the books of Seth and Edris by hereditary right amongst themselves, until the times of Noah and of Abraham; after that the high God aided him against Nimrod, on whom be malediction."‡

When the race of Cain deserted the altars of Jehovah, they commenced their adoration of the heavenly orbs and the physical elements, which afterwards became their sovereign divinities. The whole of the dynasties above enumerated, in which the Oriental appellatives of the SUN and FIRE so constantly occur as adjuncts to the names of illustrious heroes, demonstrate the total absorption of the ancients in the contemplation of those dazzling objects of ancient superstition. Of the latter powerful agent in the works

* Abulfaragii Hist. Dynast. p. 63.

† See Hottinger's Thesaurus Philologicus, on the word Enoch. 2nd. edit. quarto, 1650.

‡ Kissæus apud Stanley on the Chaldean Philosophy, p. 35.

of nature, they entertain the most awful conceptions, since its tremendous effects were often visible, even in the ante-diluvian world after the fall, in the bursting volcano, which issuing from the bowels of the agitated globe, convulsed the loftiest mountains, and reduced to ashes the proudest cities of Asia. On the flaming plains of Baku, where the priests night and day watched the burning naphtha, and lighted thence their torches to renovate the sacred flame that burned in the temples of the sun, that mysterious emblem allusive to the primogenial light which dispersed the darkness of the chaos; the Asiatics had observed its wonderful properties and resistless operations. Indeed, when we consider the globe which we inhabit in a philosophical point of view, and reflect upon the convulsions which every part of its surface must have undergone in the long lapse of revolving ages, and principally by the devastations of *fire;* when we consider that, according to recent and not superficial observations made on the matter of which they consist, that every more prominent rock, and every mountain of distinguished magnitude upon it, is in all probability an extinguished volcano, and that even islands of considerable dimensions have sprung up in the very bosom of the ocean, the effect of those subterraneous fires which rage in regions far below the expanse of waters; there is the most solid reason to conclude that the long chain of mountains extending across the Greater Asia, has, in periods to which human records do not ascend, exhibited the same flaming phænomena which the Andes of America by night present to the navigators of the great Pacific ocean; and that the precipices of Caucasus, Soleyman Kuh, and the Gauts, are the result of subterraneous fires. In fact, the mountains of Persia and the neighbouring island of Ormuz, still exhibit volcanoes that occasionally vomit out flames and deadly sulphureous vapours. The famous high mountain in Ceylone, mentioned before, and called Pico d'Adama, at certain seasons shews the latent fires which

doubtless originally contributed to its formation. The great island of Japan, according to the accounts of travellers, is a vast store-house of volcanic fire; all the more conspicuous mountains continually burning, and the neighbouring sea by night gleaming with the numerous fires which issue from the summits of the mountains submerged in its bosom. The Phillippine and Molucca islands, Java, Sumatra, and Ternate, all abound with volcanoes—volcanoes that probably rent them from the great continent adjoining, and dispersed the shattered fragments of the Asiatic world over the Indian ocean. For the accomplishment of these stupendous events, we need not refer to an imaginary eternity; the period of the deluge affords a date sufficiently distant in the annals of time, and in my humble opinion, that was the precise period of their discerption.

Observing the wonderful operations of nature by the process of fire, in the melted minerals that rolled in torrents down the sides of the flaming mountain, in their resistless course sweeping away every intervening object, or assimilating it with its own substance, the ante-diluvians endeavoured to imitate her supreme analyzing power, and very early obtained the knowledge of Chemistry. To what extent indeed that primitive race knew the art of decompounding or combining bodies by means of fire, it is impossible to ascertain; but without being considerable adepts in the hermetic art, as it has been called from Hermes, its falsely supposed inventor, neither could Tubal Cain have been the instructor of every artificer in brass or arms, nor the Indian Visvacarma, or Mulciber, the active substitute of Agni, have forged the fiery sharts of the deified rajahs, from that deity denominated Agni-astra, and made use of in the Satya, or first age of the world. The use of *fire-arms* in the earliest, and consequently the ante-diluvian period of their empire (for to the ante-diluvian hypothesis I must still adhere, as the only rational mode of explaining the extravagant, though in some instances

the authenticated chronological details of the Indians), opens a wide field for reflection, since it appears to prove that the natives of this country had immemorially the use of gunpowder, and the metallic instruments of death which are employed in the offensive use of that destructive article. If the Agni-aster of ancient times bear any resemblance to the fire-rocket used in the modern wars of India, and which was also introduced with such success into the military school of the great Timur, it proves they had the use of *iron* also; the extraction and fusion of which ore, and the preparation of it for use, are among the most complex and elaborate operations of chemistry. The fire-rocket is described by a gentleman who personally examined them in India, "to consist of a tube of iron about eight inches long, and an inch and a half in diameter, closed at one end. It is filled in the same manner as an ordinary sky-rocket, and fastened towards the end of a piece of bamboo, scarcely as thick as a walking-cane, and about four feet long, which is pointed with iron: at the opposite end of the tube from the iron point, or that towards the head of the shaft, is the match. The man who uses it points the head of the shaft that is shod with iron at the object to which he means to direct it, and setting fire to the match, it goes off with great velocity. By the irregularity of its motion, it is difficult to be avoided; and sometimes acts with considerable effect, especially among cavalry."* There is another proof of the early acquaintance of the Indians with the penetrating and destructive nature of fire exhibited in the *chakra* or symbol of Veeshnu, with which he destroys the malignant Assoors. It is a circular mass of fire, which instinct with life, like the thunderbolt of the Grecian Jove, when hurled from the hand of that deity, traverses the illimitable void, and exterminates his enemies wheresoever concealed.†

* See Mr. Crauford's Sketches, vol. II. p. 56.; and consult the engraving of it in the frontispiece to his book.

† See Wilkins's Bhagvat Geeta, p. 150.

Of the ancient and profound veneration entertained by the Indians for the element of fire, principally upon account of its searching nature and its refined purity, there remain at this day many astonishing testimonies in the sacred and civil rites of Hindostan, a variety of which are enumerated in the Indian Antiquities. One of these the most striking and awful, to omit mentioning the once universal practice of burning their dead, is their frequently ascending, whilst alive, the funeral pyre, in order to purge away by flame the guilt of human crimes. Another is the ancient rite of the Fire Ordeal, described at length in the Asiatic Researches, by a native Mahommedan of rank, who was not only a spectator, but a judge on that solemn occasion.*

A still more astonishing instance of the superstition of the ancient Indians in respect to their venerated fire, remains at this day in the grand annual festival holden in honour of Darma Rajah, and called the Feast of Fire; in which, as in the ancient rites of Moloch, the devotees walk barefoot over a glowing fire extending forty feet. "It is called" says M. Sonnerat, "the Feast of Fire, because they then walk on that element. It lasts eighteen days, during which time those who make a vow to keep it must fast, abstain from women, lie on the bare ground, and walk on a brisk fire. The eighteenth day they assemble on the sound of instruments; their heads crowned with flowers, the body daubed with saffron, and follow in cadence the figures of Darma Rajah and of Dobrede his wife, who are carried there in procession: when they come to the fire, they stir it to animate its activity, and take a little of the ashes, with which they rub their foreheads; and when the gods have been three times round it, they walk either fast or slow, according to their zeal, over a very hot fire, extended to about forty feet in length. Some carry their children in their arms, and others lances, sabres, and standards."

* See Asiatic Researches, vol. II. p. 205.

"The most fervent devotees walk several times over the fire. After the ceremony, the people press to collect some of the ashes to rub their foreheads with, and obtain from the devotees some of the flowers with which they were adorned, and which they carefully preserve."*

Both tradition and history place the first worship of fire among the Chaldeans, concerning whose priests, and their servile adoration of this element, as well as their vain-glorious vaunt, relative to its superior energy to WATER, the other great object of ancient veneration, and the trial of the respective powers of these elementary gods, in their contest with the Egyptian priests, the strenuous adorers of the humid principle, some extended strictures may be found in the history of the Chaldaic theology, in the fourth volume of Indian Antiquities, to which I beg leave to refer the indulgent reader.† From the whole, however, of what has been here observed it must be sufficiently evident, that those who idolized fire as the soul of the material world, who considered the orbs of heaven as formed of ethereal fire, who cherished in their temples an undying flame, in memory of the primordial beam, which at the creation lighted up those orbs, and regarded fire as the great *chemist* which was finally to dissolve the universe and reduce it to ashes, could by no means be superficially acquainted with an art so inseparably connected with it, and so absolutely dependent upon it.

The lotos, suspended aloft in a thousand temples as the picturesque emblem of that *humid principle*, which the emanation of the eternal beam, piercing the darkest recesses of the chaotic waters animated and rendered prolific, demonstrates the strong traditional veneration for the Aquatic Element, which descended down to the generations of Asia, from the first speculative race of human philosophers. Their conceptions concerning the union of these two grand principles, and the consequent generation of all

* See Sonnerat's Travels, vol. I. p. 154

† See vol. IV. p. 625.

things, were sometimes expressed by flames issuing from the calix of the lotos, sculptured in form of a vase, which indeed its natural shape greatly resembles ; and at others, that calix is encircled with a radiated crown of flames, just mounting above the burnished edge, to mark the superior energy of fire over water. This is the invariable meaning of the ancients, when either Brahma, Seeva, Osiris, or Horus, are pourtrayed sitting upon that sacred plant : they are only emblems of the solar fire warming and invigorating the chaotic waters. This their constant and immemorial deification of the element of water, and their profound admiration of the astonishing qualities possessed by it of pervading, cherishing, and dissolving all things, the effect of philosophical investigation, must necessarily and naturally have induced an acquaintance with many branches of HYDRAULIC SCIENCE.

Indeed the doctrine of Thales, that is, of the Ionian school, *aquam esse initium rerum,* may be fairly said to have flourished in its vigour among the ante-diluvian sages. From the same traditional fountains, whence they obtained their information, Moses also acquired his knowledge in regard to this wonderful element; and from the Mosaic school it was diffused among the post-diluvian philosophers of Asia. From the extravagant honours which they paid to it, the first race of men seem to have considered water as the universal stamen, or grand elementary matter, out of which, by the aid of the igneous principle, all things proceeded; and into which their physical researches shewed them they must all, by putrefaction, be again resolved. As it seemed to possess the power and functions of a god, they therefore made it the object of their adorations. Now it can scarcely be credited, that those whose constant practice it was, at least if we may form a judgment of their conduct by that of their post-diluvian progeny in blood and religion through Asia, with holy enthusiasm to explore springs and consecrated rivers, and whom necessity com-

pelled to form vast tanks for the purposes of agriculture, in those scorched regions of Syria, where man, expelled from Paradise, which spontaneously produced all things, and where a genial dew ascended to refresh with moisture the thirsty soil, was condemned to earn his bread by the sweat of his brow; that those who were accustomed to hew out magnificent baths for superstitious ablutions, and who, though ignorant of the cause, witnessed the alternate swell and depression of the waters of the ocean, attracted by that moon whose resplendent orb they adored, with scarcely less fervour than her radiant paramour, especially those of her philosophic race, who were situated nearer the tropical regions, where the tides rise with an awful elevation, or on the gulfs of the Ganges and Indus, the *bore* (as it is called) of which latter river rises often to the prodigious height of between twenty and thirty feet; and who had likewise surveyed and considered the stupendous column of suspended water in the phænomenon of the typhon, or water-spout, so common in equatorial climates, could be entirely ignorant of the properties and laws of fluids.

I know not whether it be only a tale of vanity, intended to impress Europeans with ideas of the unfathomable antiquity of their country and nation; or whether the assertion be founded on some ancient traditions; but the Brahmins of the Peninsula vauntingly and invariably assert, that in ancient times the sea washed the margin of the Gauts, from which it has since gradually retired. Sir William Jones too, to whom no improper motives can possibly be imputed, in his preliminary address to the Asiatic Society, intimates, from the Brahmin books, that the ridges of Caucasus might once have formed the barrier of the ocean.* If in either case it is intended to be insinuated, that this desertion of the land has taken place in the asserted *immeasurable* periods of past time, and during that slow progressive retreat of the ocean from the

* Asiatic Researches, vol. I. p. 11.

solid continents of the world, in the course of which it is affirmed by naturalists, that new and extensive districts are formed, after a gradual process, by the deposited sands of the ocean in one quarter of the globe, while equally extensive regions are undermined and submerged in another, an assertion upon which modern scepticism has erected one main pillar of her air-built fabric ; I must observe that the hypothesis of such a progressive subsiding of the waters of the sea, and such a formation of new continents by its deposited sand and gravel, though doubtless in a partial degree true, can by no means be admitted in all the extent for which those gentlemen contend. It is possible, and indeed probable, from a variety of phænomena, that the whole surface of the existing earth has been successively covered with the waters of the ocean; but those very revolutions which, in the vast periods of time, the sceptic affirms the body of the earth to have undergone, if allowed to have any foundation in truth, unanswerably demonstrate that considerable portions of the globe may be deprived of their watery envelop by a more rapid process than that alluded to above, and produced to prove its eternal duration. The fact itself, of any such recession of the aquatic element is to be admitted with great caution, since we have before shewn, from very authentic evidence, and the personal examination* of two very ingenious Oriental travellers, that the intimation of Herodotus, relative to the twenty thousand years which to him appeared necessary to have elapsed before the Delta of Egypt could be formed, is a chimera of his own, totally unfounded ; and that, from a comparative statement of the admeasurement of that Delta, as given by Herodotus, with that recently presented to the public from the exact astronomical observations of M. Niebuhr, very little perceptible alteration had taken place in regard to its elevation or limits, a circumstance still more extensively confirmed by Mr. Bruce, who, on examining

* See Chapter 3, preceding. Niebuhr, and Bruce.

the relative situation of Canopus, a city which gave name to one of the mouths of the Nile, and that of other adjacent places, found that no considerable alteration had taken place during a period of 3000 years. Now if in the long lapse of 3000 years, so little perceptible alteration has taken place on the sea coast of Egypt, to what enormous aggregate of years will the Brahmins refer the recession of the Indian ocean from the ridges of Caucasus, and the prominences of the Gauts? the intimation evinces their conceptions in natural history to be equally as extravagant as they are in astronomy. Whatever may have been the case in past æras, it is a fact that the sea, in its perpetual flux and reflux, is at present attempting to recover its former invaluable possessions on the envied shore of India; since according to recent and authentic accounts, the renowned city and pagoda of Mavalipuram, vulgarly called the *seven pagodas,* as well as many other ancient places on the coast of Coromandel, have within comparatively recent centuries, been buried under its intruding waves. This catastrophe, however, has not taken place by the slow efforts of the sea alone, for in direct corroboration of what I have just advanced, Mr. Chambers, who details the account of those ruins,* plainly saw the marks of stupendous fissures in the rock on which the pagoda was erected; which shew that some earthquake, or other dreadful convulsion of nature, has materially contributed to their devastation.

To conclude this account of ante-diluvian hydraulics, it is not probable that those who could wield with ease and skill the ponderous instruments of the forge, wanted either wisdom or vigour to fabricate many of the implements used in this branch of science; although they might not possess those more powerful engines of modern times, directed by the resistless energy of the spiral screw, the lever, and the wheel.

If what has been said above relative to the knowledge of the

* Asiatic Researches, vol. I. p. 158.

ancients on this subject should appear extravagant, I must shelter myself from censure under the opinion of Mr. Whitehurst, who, from what the fathers of human science have delivered down to posterity concerning the chaotic state of things, and the universal fluid in which the earthy particles were suspended, urges the possibility of the Newtonian doctrines respecting gravity, fluidity, and centrifugal force having been known in remotest antiquity, though afterwards totally forgotten and lost, till revived again by that immortal philosopher.*

It was impossible for a race who may be called the children of allegory and fancy, to avoid very early deifying the circumambient ÆTHER; and, therefore, as might be expected in India, every cloud has its directing genius, and every gale its attendant devata. Superstition hears some perturbed spirit of the vasty deep raging in the midnight storm, and sees the angry deity launching over the Gauts the terrific and irresistible shaft of the tropical lightning. Her philosophers, indeed, like the stoics of Greece, imagine a fifth element, formed of the more refined particles of igneous air, which they call the akass; that pure, transparent, luminous ether, in which the planets move. I cannot avoid being of opinion that in this supposed connection of ether and fire we may find an explanation of that curious circumstance mentioned in Eusebius, that Hephæstus, or Vulcan, had a blue tiara ascribed to him; *pointing out that region* of the pure cerulean sky possessed by this ethereal fire. In truth, blue vestments and decorations are usually to be met with on the statues of Indian deities. Narayen and Sani are of a *blue* colour; and Isis, it will be remembered, wore a large *blue* veil. In the Indra, or Divespiter of India, and his symbol the vaira or forked bolt, we immediately recognize the Jupiter Tonans of the Greek and Latins, for he is the principal deity of the atmosphere, resides in a splendid palace, beyond

* Whitehurst's Enquiry, p. 18.

the snowy heights of the mountain Himmalay, or Imaus, as Jupiter does above the summits of Olympus, drives a similar car, and hurls the identical thunderbolt. I say we immediately recognize him for the same aerial numen; because, as I have had repeated occasion to observe, of two nations professing the same system of mythology, it is but just to assign to the more ancient nation the honour of *invention.* If Jupiter vanquished the Titans with reiterated strokes of his thunderbolt, in the very same manner does Indra transfix the Assoors, those enemies of gods and men, and the particular invaders of his aerial domain, with the agni-astra, fabricated in the forge of the Indian Vulcan. It is remarkable that on many of the ancient medallions, the giants, upon whom Jupiter is pourtrayed in the act of fulminating his vengeance, are drawn with the inferior limbs terminating in the form of serpents; a mode of designation immediately pointing to the peculiar mythology of India, and which it is necessary to explain.

The ancient Indian geographers divide the globe into two hemispheres, the superior and inferior: the superior, or northern hemisphere, is the region of delight, beauty, and abundance; and in it Indra presides with an army of Soors, or good genii; holding his court on the refulgent summit of a great mountain of gold, which they denominate Meru, and by which, in fact, they mean the north pole. The inferior, or southern hemisphere, that is the region immediately under them, they represent as a land of darkness and horrors, inhabited by evil dæmons, or Assoors. They suppose the sovereign of that region to be YAMA, the Indian Pluto, who is also the judge of departed souls, that receive their future doom at his infernal tribunal. The whole allegory is founded in their physical notions, and their gross ignorance of the true geography of the globe. But the region of Indra being that of light and beauty, the Assoors who tenant the nether world, with Seshanaga

the *prince* of serpents for their leader, are perpetually engaged in dreadful conflicts with Indra and the Soors, or angels of light his ministers, against whom with unavailing rage they may poetically be said to pile Pelion upon Ossa. The story of the Titans assailing the Olympus of the Grecian Jove, I conceive to be no other than a copy of this attempt of the Assoors to take by violence the heaven of Indra, ill understood by the Greeks, and mutilated by their allegories. The serpents in which their inferior limbs terminate, allude to the inferior bobuns, or spheres of Naraka, from which those Assoors are generated, and which are described as wholly composed of serpents; alluding to that vast constellation the Hydra, or serpentarius, which usurps so extensive a portion of the southern hemisphere, and which the Greeks, therefore, feigned to have a hundred heads. It is not a little singular, that the old inhabitants of the southern sphere held the very reverse of this opinion, for the Egyptians as well as the Ethiopians, and after them the Greeks considered the northern hemisphere, as the land of gloom and misery; and the latter in particular fixed their Tartarus on the very spot which the Indians have consecrated with the name of the Vaïcontha, or paradise of Indra.*

To resume the subject of the personified ether, or Indra of the Hindoos: although the power of this deity is exceedingly extensive, yet he is by no means invested with that unbounded empire over subject nature which the Grecian mythologists have conferred on their Jupiter; but he resembles that deity principally in his character of *god of the firmament*. In fact, the immense vicissitudes of climate naturally to be expected in so extensive a country as India, and the tremendous irregularities of it which actually take place in certain districts of that country, are the principal source of the great powers with which superstition has armed this imaginary divinity, for Indra is not always the object

* See Mr. Wilford's Essay, in Asiatic Researches, vol. III. p. 295.

of delight and love to the adoring Hindoo. If sometimes he descend, like ethereal Jove, in genial showers, he is at other times attended by a ghastly train of deadly vapours and pestilential blasts. Those who live on the coast, and feel the soothing influence of air in agitation in the cool and balmy breeze that blows every morning from off the ocean upon the land, have great reason to exult in the blessings bestowed by Indra; while those again cannot avoid trembling at his power, who breathe the burning atmosphere of the scorched plains of Berar. The cerulean fields that constitute the domains of the Indian Divespiter, are in truth the scene of their wildest, and I may add, their most gloomy mythology: they are eternally fraught with objects which excite alternate transport and dismay. The comet portentously blazing through a vast tract of illumined ether filled them with dire and inexpressible alarms: with superstitious reverence they observed the boding meteor glide down the nocturnal heavens; and they heard the awful report made by its explosion, amidst the dead silence of the night, with unutterable terror.

It is scarcely possible to conceive a nation who so accurately observed the phænomena of the heavens, and who from them drew presages the most important and interesting, to have been ignorant of the nature and properties of an element to which they had so minutely attended, and consequently the principles of Pneumatic Science. They must have known that air, not less than water and fire, served to form, as it were, the grand cement and universal bond of nature; equally pervading and cherishing the whole animal and vegetable world. On the lofty mountains whose summits they chose for their residence, Nature, the great master, as well as the sun's powerful beam, acting more immediately upon the atmosphere of equatorial regions, would soon teach them its wonderful quality of Rarefaction and Expansion: and its Density and resistless power, would not fail to be dis-

covered at the period of the monsoons, those vast and ponderous columns of air in motion, which with irresistible violence at one time ravaged the shores of the Peninsula, breaking down the strongest trees, and like the hurricanes of the western world, sweeping every object before them; and at others dispersed over the deep the rich cargoes of their various commerce, the produce of the silk-worm, and the jewels of Golconda.

How far the first race of men might carry into experiment and practise the philosophical observations thus made by them on the operations of nature in that various clime, it is impossible to say; but that they were no strangers to the generative and invigorating influence of air acting forcibly upon other elementary matter, and particularly on the watery element, is indubitably evident from the universal traditionary doctrine which runs through all the cosmogonies of the East, that at the beginning of time the wind of God, or a wind from God (for by this perverted title they generally denominate the Πνευμα Αγιον of Scripture), violently agitated the waters of the chaos, and rendered them prolific. We have shown before, that even the atheistical cosmogony of the Phœnicians affirms the principle of the universe to have been a dark, windy air, turbulent and boundless:* and in the latter part of the description we read, that the air shining with ethereal light, by its fiery influence on the sea and earth, winds were begotten, and clouds, and great defluxions of the heavenly waters.†

As Jupiter had a queen of his Olympian palace in Juno, so has Indra in his celestial city of Armaravati and his golden palace of Vaijayanta a consort named Sacki; and the stormy prime minister of his aerial domain is Vayoo, the god of the winds, who rides furiously from one point of heaven to the other, on a swift antelope, and brandishes in his hand a sabre gleaming like lightning. I am not able to say whether Sacki resembles the Juno of

* See Chapter 1. preceding. † See Cumberland's Sanchoniatho in continuance, p. 3.

the Roman deity in being the sister as well as the wife of Indra; but we well know to what country to trace the origin of this fable, since that was the very character of the Egyptian Isis, who even copulated with Osiris in the womb of their mother Rhea, both being the mythological offspring of Saturn, or time, the parent of all things. The wings of Isis also prove the nature of the functions assigned her in the mythology of Memphis, and the Greek name of Juno, which is Ηρα, proves in what sense the Greeks understood the character, at least under that designation; for Isis in that mythology assumed various forms, was invested with various functions, and was as variously designated, while at the same time it points out the particular channel by which this Oriental allegory came to Rome.

How nearly the latter people thought the two elements, which have engaged our attention above, to be related, is evident from their making Vulcan the son of Jupiter and this Olympian goddess; and the general affinity between the Indian and Roman mythology is farther proved from the following curious circumstance recorded by Pliny, with a relation of which I shall conclude these extended strictures on the deification of the firmament and circumambient ether. In the Indian Antiquities I have given an account of the practice universally adopted by the Brahmins of painting the statues of their deities with a profusion of *vermilion*, which they lay on without much elegance or art.* Now Pliny, in the seventh chapter of his thirty-third book, after informing us that the ancient Romans, a colony which doubtless emigrated from Asia, were accustomed very liberally to use *vermilion* in their most sacred rites and mysteries, asserts that in his time it was the practice on certain high festival days to paint the face of Jupiter with that colour, and that, in fact, the first order issued by the censors

* Indian Antiquities, vol. V. p. 848, where the probable cause and origin of this custom are attempted to be explained.

of Rome, at their entrance on their office, was in conformity to *that* custom to paint the aspect of Jupiter with minium, that is, vermilion. He professes his ignorance of the origin, and his astonishment at the continued practice of so strange a custom; but in the very same page acknowledges that it was still the custom of the Ethiopians to paint not only themselves, but their gods with vermilion.* Of this custom having originated in India there can be little doubt, for a considerable chapter of the future history will be devoted to prove that the Ethiopians themselves are a race of Indians. Indra is represented in the Indian pagodas covered with eyes (the spangled firmament I presume), and riding upon a famous white elephant, known through India by the name of Airavat.

Progressively advancing on the hypothesis, justified by whatever we know of human nature in its present state, I mean while unenlightened, and which probably is not different from what it was before the flood, that the primitive race of men first surveyed with admiration, and then deified *all* the elements; we now come to the examination of their notions concerning the Earth, and to what sciences their speculations on this subject might have given birth. Observing its fecundity as well as the abundant nutrition which it afforded to the animals doomed to inhabit and cultivate it, the fathers of mankind early bestowed upon this element titles congenial with its nature and its qualities, and universally agreed to exalt the earth to a female divinity. Her customary names in antiquity of Dea Multimamma, and Bona Dea, sufficiently evince their sentiments on this head. The Indians very emphatically expressed them, when in their most ancient legends they denominated her KAMA-DEVA, or the white Cow of Plenty, which, as being the mythology of the elder nation, I must still and strenuously contend, gave birth to the cow, or the horned Isis of

* Plinii Nat. Hist. lib. 33. p. 858. edit. folio Aldi.

Egypt, and through that medium to the romantic fable of the Grecian Io, transformed into an heifer. Were that conjecture destitute of probability, the profounder investigations of Mr. Wilford on the consecrated ground of Benares itself, would still enable me to support a position at once so reasonable, and so consistent with the acknowledged course of scientific improvement; for it is not a little remarkable that her other name, as Mr. Crauford, an author whom I invariably find accurate, has well observed,* is Vasoo-deva, which is only a corruption of Isa-deva. Now on the Sanscrit radix of these words, let us attend to Mr. Wilford. "Deva, or the goddess," says that gentleman, "and Isa, or the sovereign queen, is the Isis of Egypt, and represents nature in general, but in particular the earth, which the Indians also call Prithivi: while water and humidity of all kinds are supposed by the Hindoos to proceed originally from Veeshnu, as they were by the Egyptians to proceed from Osiris."† Mr. Wilford here means Osiris on the lotos: he was variously designated; sometimes as the sun, and sometimes as the humid principle; and often he is the centre of union of both. Of Osiris, in the latter character, the reader will find an ample account from Plutarch towards the close of the third volume of the Indian Antiquities, where the symbolical worship of the Egyptians, and the physical causes of their veneration for the various animal and even vegetable tribes, are discussed at some length. There is also another name which the Greeks, under the same impressions, conferred on this grand terrestrial divinity, I mean that of Rhea, which although etymologists deduce the word from ρεω, to flow, because whatsoever good mortals enjoy was supposed to flow from her, is yet, in fact, derived according to our author from the Sanscrit word Ri, the name of a most venerable personage in the Indian mythology, and a character no less exalted than the mother of the gods. The Greeks accurately translated this

* See his Sketches, vol. I. p. 188.

† Asiatic Researches, vol. III. p. 374,

Hindoo title when they denominated the great mother Πασιθεα, *i. e.* Πασι Θεοις Ματηρ, and the Romans, with scrupulous fidelity, when they gave her the title of Magna Deorum Mater.

This very appellation, so universally bestowed on Rhea, fully reveals to us the whole mystery of the ancient theology, and the nature of the characters enshrined in its temple. For if the earth were the mother of the gods, by the deities thus produced could not possibly be meant any other than the physical phœnomena that relate to it, and the elements which are incorporated with its substance, and embrace it on every side. Concerning the exuberant fertility of the Indian Kama-deva, or Cow of Plenty, the archetype, I believe, of all other animals of the bovine species canonized by mythology, the curious reader will be gratified with abundant and wonderful testimony in the history of the sixth Indian Avatar, to be detailed in my second volume, which will contain an authentic and striking engraving of this Indian cow, in the very attitude of descending from the heaven of Indra, her guardian and keeper.

With respect to the element under consideration, we may adopt the same mode of argument used in regard to the three preceding: viz. that their adoration of the earth would naturally induce the ante-diluvians, as far as they might be able, to examine its surface and contents, which must necessarily lead to some acquaintance with *Mineralogy*, and the sciences connected with it. From the intimate knowledge which they seem to have acquired of its abundant productiveness, in all the various species of grain and vegetables for the use both of the human and brute creation, additional arguments may be derived of their great advance in the arts of agriculture, horticulture, and botanical science in general. In India, especially, where the rich soil and genial climate allow them, and probably ever did allow them, to gather in two harvests in the year, new and ample sources of admiration, in its

unbounded fertility would be continually opening. That very fine species of flax, from its delicate fibres anciently called Carpasian, and by the author of the Periplus Maris Erythræi, when speaking of the fine linens of India, expressly denominated καρπασος, possibly in allusion to the poisonous quality which this plant imparts to ponds and rivers in which it has been infused, and the beautiful cotton tree were among the particular and distinguished vegetables of that luxuriant soil. Now as there appears to be no just cause for denying to the ante-diluvian race the talents and skill of their post-diluvian progeny, it is probable that, in those ancient not less than in these modern times, the vegetable productions in question gave ample employment to the sons of industry, and the sail of commerce. They had, doubtless, also then as now, the fragrant nut of the Anacardium, indelibly to stain their manufactured linens with its penetrative juice, and the richer dyes of the indigo (deriving its very name from their country) were exclusively their own. Add to this, the whole region of India being a rich garden of medical and aromatic shrubs, they must have made great progress in the healing art, simple as it then was; curing most diseases incident to the human frame by the application of sanative herbs, and emollient unguents, extracted from the most costly Oriental gums. The mulberry trees of Serinda probably nourished an equal, if not a larger, quantity of silkworms, the produce of whose elaborative toil engaged innumerable looms, and was wafted to distant shores. The varieties produced by the surface of that earth which they so much venerated did not, however, wholly engross their attention; they descended into its deepest internal recesses; they explored its subterraneous wonders, and dug out the precious ores and gems contained in its bowels.

Among the articles of ante-diluvian commerce the reader would naturally be surprised at my numbering, in a former page, the

diamonds of Golconda, as if the mines in that province were worked before the flood; but I own I see no reason for supposing that the same chance which led to the discovery of other depositories of precious stones, such as those of Panassa or Bundlekund in Bahar, and the Adamas, or diamond river of Bengal, should not have induced also the discovery of the diamond beds of Gani and Coulour. I have read, with the attention which they merit, from a traveller so deeply skilled in the particular knowledge and history of jewels as was Tavernier, the accounts given by him of the Indian mines, which indeed are very curious and interesting,* and he appears to be right in all his assertions, except those that regard the date of the discovery of the mines of the Peninsula. That Peninsula could never have supplied to the ancient Phœnician, Egyptian, Grecian, and Arabian traders, or even to its own rajahs in later periods, and their Mahommedan conquerors, such immense treasures in this article as the history of all those nations proves them to have acquired, had the diamonds of those mines laid dormant in their native sand and rock during so many revolving ages; and had only been discovered, as he affirms, at the most two or three centuries ago. Tavernier undoubtedly wrote from the best documents which he could procure, but the ancient history of those mines and that part of India was probably unknown to the inhabitants of the Peninsula themselves, who seem by no means to have been the aboriginal possessors of the country. The discovery both of coloured stones, and of the diamond itself, known to the ancients by the name of Adamas gemma, was probably discovered after the following manner.

Some happy rustic turning up the soil, as according to Tavernier,† was literally the case at Golconda, beheld at his feet a pebble, whose sparkling lustre, increased by the direct beam of the vertical sun, attracted his notice. Digging deeper he found others

* See Tavernier's Travels in India, part ii. p. 134, et seq. † Ibid, p. 137.

of greater magnitude and more dazzling brilliancy. Commerce had as yet stamped no value upon the glittering toy. He selected a few of the most beautiful stones as embellishments for his cane-built habitation, or as ornaments for the neck of the woman whom he loved. Curiosity led others to the spot, and a vain desire of distinction, natural to the human mind, induced them to follow his example. Their decrease in number, added to the increasing demand for them, soon operated to stamp a value upon these stones. Tidings of this new found treasure soon reached the prince of the country; the spot was immediately inclosed, the mine sunk, and henceforth they became an object in high request, and by degrees an article of national traffic. The preceding, and, I trust, not improbable statement of the first discovery of precious stones, relates rather to those of the coloured kind, than the diamond, whose surface, in its rough state, affords little indication of the transcendant beauty and splendour it conceals. Diamonds, however, are often found in the beds of rivers, and in deep gullies, washed down by the rapidity of the torrent from the high mountains whence they issue; they are incapable of being polished, except by the medium of their own dust; and it is not impossible but that many of them, by their very attrition against each other, during the course of their progress over an obstructed bed of sand and gravel, have received from accident, as fine a polish as art ever bestowed. An observation of this circumstance doubtless gave the first idea of polishing diamonds, as well as all other stones, to the fortunate discoverers of that valuable gem; for notwithstanding that ingenious art is first attributed to the invention of Lewes de Berquen, of Bruges, in 1476, and notwithstanding all that has been advanced by the learned president Goguet, concerning the late discovery of diamonds, and the particular art in question, it is a fact which will hereafter be unanswerably proved in this history, that diamonds, exquisitely polished, and of considerable magnitude, in the earliest

periods to which human records ascend, did absolutely adorn the regalia and palaces of the Indian rajahs; nor indeed can more convincing evidence of the certainty of that fact be adduced, than the words of the venerable Mahabbarat itself, which expressly assert, that the great mountain of Meru, or the north pole, was entirely composed "of gold and diamonds." * That this is not too high a period in antiquity for the supposed discovery and use of gold and precious stones, the reader may be convinced who will advert to the account which Moses has given us of the productions of those regions of Asia in or near which was situated the terrestrial paradise, for the land of Havilah is said to have produced gold: "and the gold of that land is good, there is bdellium, and the onyx stone."† The ancients must have been very early and very deeply skilled in the lapidary's art, to have attained, even in the time of Moses, the knowledge of engraving names and symbols on the hard substance of those stones, for we read in Genesis, xxviii. 11. of various kinds engraved and mounted in gold. These containing the names of the twelve tribes of Israel, adorned the ephod and breastplate of the Jewish Pontifex, and the kinds enumerated are as follows: forming altogether a most splendid and beautiful assortment.

"And thou shalt set in settings of stones, even four rows of stones: the first row shall be a sardine, a topaz, and a carbuncle; this shall be the first row.

"And the second row shall be an emerald, a sapphire, and a DIAMOND.

"And the third row, a ligure, an agate, and an amethyst.

"And the fourth row, a beryll, and an onyx, and a jasper: they shall be set in gold in their inclosings."

Whether the Hebrew names of all these stones are rightly translated, is a subject of dispute among the commentators; but

* See Bhagvat Geeta, an episode of the Mahabbarat, p. 85.

† Genesis ii. 1.

all agree that the word Jahalom (from *halam*, to *break*, alluding to the superior hardness of the adamas, or diamond) is properly rendered; and the catalogue itself of so numerous a collection of gems, spoken of as if familiar to the engraver, cannot fail of exciting admiration in the reader who attentively considers it. The book of Job also, in the antiquity of which I must still declare my unshaken belief, speaks of gold and silver mines, and a variety of jewels, in so particular a manner that it is impossible to avoid assigning to the primitive race the honour of first exploring and manufacturing these valuable commodities, and transmitting the knowledge attained by them to their post-diluvian progeny. To cite the passage will not perhaps be displeasing to the reader, especially as it is so immediately connected with the present subject, and so avowedly refers to the subterraneous prodigies of the earth, thus early and extensively investigated.

" Surely, there is a vein for the silver, and a place for gold, where they fine it.

" Iron is taken out of the earth, and brass is molten out of the stone.

" As for the earth, out of it cometh bread: and under it is turned up, as it were, fire.

" The stones of it are the place of sapphires; and it hath dust of gold."*

And again in the same chapter, speaking of wisdom, the philosophic son of Sirach beautifully exclaims: " It cannot be gotten for gold, neither shall silver be weighed for the price thereof.

" It cannot be valued with the gold of Ophir, with the precious onyx, or the sapphire.

" The gold and the crystal cannot equal it: and the exchange of it shall not be for jewels of fine gold.

* Job, xxviii. 6. et seq.

"No mention shall be made of coral, or of pearls, for the price of wisdom is above rubies.

"The topaz of Ethiopia shall not equal it, neither shall it be valued with pure gold."*

There are no existing memorials from which information may be obtained relative to the period of the first discovery and working of the mines in the neighbourhood of the Adamas river, so denominated from the diamonds found on its shores. It probably goes back to that of the foundation of the Indian empire, if not to the remotest annals of time; since the same cause must ever have produced the same effects; the same temptation led to the same consequences. Both Ptolemy and Pliny mention the diamonds found in this country. The Panassa of Ptolemy, or modern Bundlekund, is a high mountainous tract, situated on the south-west side of the Jumna, and nearly one hundred miles square. The Samelpoor diamonds are of great and ancient celebrity, and are brought down by the stream during the annual rains, from the mountains on the south.

That elegant variety in the species of porcelain which is manufactured by the potters of India and China, is probably the result of that attention which the physical Oriental race gave to the matter of which the soil of their country is composed; especially in China, where the people are the most expert and diligent proficients in agriculture of all the Asiatics. This knowledge, however, they originally brought from India, whence, in Sir William Jones's opinion, they emigrated, to regions bordering on the ocean, and nearer the rising sun, at a most ancient period, but not beyond the reach of Sanscrit annals. Utensils of baked earth were doubtless as necessary to the ante-diluvians as their sons; necessity was as much then as now, the fertile mother of a thousand inventions; and when they examined the many elegant species of argillaceous

* Job, xxviii. 15. et seq.

earths with which Asia abounded, some beautifully white like the argilla apyra, or *kaolin* of the Chinese, in appearance resembling our pipe-clay, but very superior in its properties, and that peculiar sort of blueish white clay, dug in the pits that have immemorially supplied with materials the great laboratory of King-te-tching, and of which the beautiful sky blue porcelain is formed; when they surveyed these, and many other kinds of clay and marle, variously tinctured, and brought them to the test of their all-searching element of fire, they gave the ductile mass the various forms which use or fancy dictated, and thus laid the foundation of those vast manufactures in this article, for which the East has been so long famous, and till lately unrivalled. But let us penetrate deeper into the recesses of that earth, which from its abundant productions they considered at first as an apt symbol of the Deity, and afterwards fell into the gross error of exalting to the honours of a divinity itself.

We have already shewn, from Scripture, that the *mine of iron* must have been explored in ante-diluvian æras, and it was probably discovered after the manner which, I have there intimated, might possibly have given the ancients the first idea of the fusion of metals. The collision of trees growing thick in some vast forest of the tropical regions, arid in themselves from want of genial rain and dews, and violently agitated by sultry winds, or perhaps fired at once by the stroke of lightning, occasioned a conflagration in those regions where the sun soonest ripens the abundant ore, and the concealed metals, dissolved by the penetrating heat of the fires, as they descended nearer the surface of the earth, streamed forth in a torrent. In fact, this is related by Strabo to have been the real case, when the silver mines in the Pyrenees were discovered; some shepherds having, by accident, set on fire the forests of those mountains.* To obtain gold, however, the ancients needed not

* Strabo, lib. 3. p. 217.

to have deeply ransacked the bowels of the earth, for in those *Asiatic* and African countries, which produce that precious ore, it is frequently found in masses of considerable magnitude, in the beds of rivers and mountain torrents, after the tropical rains. The same may be said of silver and copper; and all these metals thus obtained, are generally found in a state of such purity, as to require very little additional labour from the process of melting and refining. If that, however, had not been the case, since Tubal Cain could fabricate arms and instruments of iron ore, so much more difficult to be extracted from the stony concreted matter, with which it is incorporated, and requiring such reiterated, such Herculean labour to bring it into fusion, and render it forgeable, it cannot be supposed the primitive race wanted skill, or means to reduce to a fluid state, and mould into any form, proper either for use or ornament, ores so much more soft and ductile as are the former. The one circumstance results by natural consequence from the other: and thus we see the writings of the Hebrew historian, so far from operating to contract the imagined sphere of ancient science, allow the greatest latitude that can in reason be expected for carrying back to ages the most remote on record, the history of the useful, as well as the elegant arts. It is remarkable, that we not only find in those writings the only authentic accounts of the birth of science in the primitive world, as *metallurgy*, chemistry, music, agriculture, and pasturage, but also the most accurate statement of the progress made in the liberal and mechanic arts in the earliest post-diluvian æras. How little should we have known, from any credible source, of the rapid scientific advance of the ancients a few ages after the flood, had the Pentateuch never been written. Thus when we read that the father of the patriarch Abraham was a maker of *idols*, we know that the art of sculpture, however rude, must then have been in being; and that when the latter *clave* the wood for a burnt-

offering, and drew the fatal *knife*, or rather *sabre*, intended to slay his son Isaac, there is the greatest probability that even in those early periods the ancients had acquired the art of tempering iron into steel, because of that metal the blades of knives and sabres are made. Again, when we find the patriarch Jacob demanding all their *ear-rings* from the persons of his household,* and read of the *bracelets* that adorned the hands of Rebecca; † that Pharaoh when he raised Joseph to that exalted dignity which he enjoyed in Egypt, put a *gold chain* around his neck; ‡ and that Judah gave his signet and his ring, in pledge, to Tama,§ we must be convinced that the art of working, engraving, and chasing in gold, must have arrived at a considerable point of improvement. Nor are we less assured, from the four hundred *shekels of silver*, paid by Abraham for the field or burial ground of Ephron,|| that gold and silver bullion had then received the stamp of the mint.

Who could have conceived that one of the most difficult processes in the whole science of chemistry, that of reducing to powder and rendering potable the golden calf, could have been known at so early a period as when Moses led out of Egypt into the Desert, the children of Israel? that the most elegant designs in the purest metal, such as undoubtedly were the expressive figures of the cherubim, formed of beaten gold, the rich crown of gold which surrounded the ark of the covenant, and the costly chandelier with its seven branches of the same metal, should be thus ably executed by the despised race of the Hebrews, the slaves of the Egyptians? It is by these gradations that we are enabled to trace back through distant ages, the devious tracts of science to its ante-diluvian source; that science which was so widely diffused over all the east by the Noachidæ, in their dispersion through Asia on the establishment of the first colonies. All the circumstances above

* Genesis, xxxv. 4. † Ibid. xxiv. 30. ‡ Ibid. xli. 42. § Ibid. xxxviii 18.
|| Ibid. xxiii. 16.

recited tend irrefragably to prove my former assertions, relative to the knowledge the ancients had of the calcining and refining power of fire. Moses certainly was deeply acquainted with it, as well as the chemical pursuits of the Egyptians, when he so pathetically told his liberated nation, that God had *brought them forth out of the* IRON FURNACE, *even out of Egypt*, Gen. iv. 20. If in that comparatively infant state of chemistry they could proceed thus far in practice, to what discoveries and experiments might they not have been led, had they known the point of perfection to which this wonderful art has been carried in modern times; had they known the powers of our metallurgic furnaces of the reverberatory kind? If Archimedes, as is recorded of him, by the force of his burning mirrors could set fire to the Roman fleet, when besieging Syracuse; and Proclus to the navy of Vitellius, assailing Byzantium; what could not those philosophers have effected by the superior energy of the highly improved burning-glasses of modern times, which are able to collect the rays of the sun into a focus of such intense heat, as to evaporate the flint, and volatilize the diamond?

It is highly deserving of remark in this retrospect upon the ancient sciences of Asia, that it was not only of IRON instruments, whether for peace or war, that Tubal Cain was the inventor, but of those of *brass* also, a factitious metal, requiring for its fabrication a compound chemical process; being the result of a fusion of copper together with a certain quantity of the *lapis calaminaris*, or in other words, the ore of *zinc*. Were not the commentators almost unanimous in giving this interpretation of the original Hebrew word, it would scarcely be credible that in those periods the peculiar properties of zinc to impart a superior hardness, and a beautiful yellow colour to copper in fusion, could have been known. Yet when we read in ancient histories and poems that the armour of the most renowned heroes, who flourished in the primitive ages,

was fabricated of brass, and that the first implements used in agriculture were composed of this metal (whence the brazen sistra shaken in the pomp of the Eleusinian Ceres) we cannot deny our assent to the knowledge and use of it in the highest periods of antiquity. Its dazzling brilliancy in the field of battle, added to the circumstance of its being more easily burnished and polished, at the same time less subject to rust than other metal, gave it that decided preference in the choice of the warrior, which it so long enjoyed. Trojans, Grecians, Romans, *Britons*, *alike delighted* to engage the foe arrayed in arms of *gleaming* brass. Profane history in this respect, gives its support to the sacred page, and the whole affords additional proof of the great advance of the ancients in the knowledge of ores. It should not be omitted, that by the universal consent of chemists, zinc was originally imported from the East into Europe; and its ancient name of Indian tin, points out the country whence it came. A species of zinc is still made in that country, for I consider India and China as one country, and is known to Europeans by the name of TUTENAG. This curious and, when properly polished, beautiful semi-metal was, I am inclined to think, known to the ancient naturalists and manufacturers; constituting the λευκον κραμα of the Greeks, and *æs candidum* of the Latins.

With the numerous salts, volatile, fixed, or essential, which are obtained either immediately from the earth *itself*, *or* the bodies generated in it, their great proficiency in chemistry must have rendered the primitive race well acquainted, since many of them were absolutely necessary in the various processes of the smelting and refining house. Thus Moses, to have pulverized and rendered potable the substance of the golden calf (a thing objected to by critics of superficial knowledge in chemistry, because by them conconceived impossible in that *supposed* infant state of science), is by the profounder Stahll,* in a professed dissertation on the subject,

* See Stahll's Vitula Aurea in Operibus, p. 315.

thought to have effected it by means of the Egyptian natron, a salt, the operation of which is supposed to be the same with that of tartar, used by the moderns in this process. This powerful salt is very celebrated in antiquity, and is obtained from a certain lake of stagnant water, situated about forty miles north of the pyramids, in the desert of Nitria in Egypt; from which circumstance, and some similitude in the names, it has been called the Egyptian nitre. There is a long, and to the antiquarian naturalist, an interesting account of this production in the Philosophical Transactions,* which Dr. Leigh, the writer, conceives to have two principles for its basis, the sal-marine, and an urinous salt. It was used by the Egyptians in the preparation of their mummies. Of oils they must have been also in possession in great abundance, as well those of the mineral as animal or vegetable kind, for the carrying on and perfecting the innumerable manufactures of every kind which commerce supported, and increasing luxury, in a world destroyed for its voluptuousness and profligacy, demanded. Of gums, balsams, and essences, the most costly and aromatic, Asia, the land of perfumes, has been immemorially the grand storehouse; in fact, the most valuable species of these commodities bear the names of the great districts of that continent, whence they are brought; and among these the spikenard, the aloes, the ambergris, the sandals, the storax, the benzoin, and the attar, or otta, of the East Indies, are by no means the least distinguished.

I shall not trouble the reader with any additional strictures on the deified element at present under consideration; but proceed to consider the probable progress of the ante-diluvians in two sciences intimately connected with it, GEOMETRY and GEOGRAPHY; and each of them opens to us a considerable field for speculative inquiry.

We have already remarked on the great probability that geo-

* See Lowthorp's Abridgement, vol. II. p. 525.

metry was cultivated before the flood, because the æra of the erection of the pyramids approaches so very near to that event, and their construction evinces so considerable an advance in geometrical science, as could scarcely be attained to in the intervening space, without the principles of that science having been traditionally delivered down to the Egyptians by their antediluvian ancestors; but indeed we have a still firmer basis for that supposition, in the proofs already adduced, especially in the building of a city by Cain, of the flourishing state of ante-diluvian architecture, which cannot exist without the aid of geometry. The common arguments brought from Diodorus Siculus and Strabo, * to prove this science the invention of the post-diluvian race of Egypt, viz. the annual inundation of the Nile, and consequent demolition of the boundaries that separate the respective property of the inhabitants of the Delta, have always appeared to me exceedingly futile: for can it be supposed that a nation, so renowned for wisdom and the invention of those arts peculiarly useful to the purposes of life, could be at a loss to find more substantial and durable materials for the partition of the soil of Egypt, whether private or provincial, than such as could be annually washed away by the overflowing of the waters? Strong stakes driven forcibly and to a considerable depth into the ground, would surely have prevented a catastrophe so fatal to the proprietor of lands; or, as the quantity of timber in Egypt is now, and probably ever was very inconsiderable, were not the granite mountains of the Thebais at hand to furnish them, if necessary, with still more permanent landmarks? How well the Egyptians knew immoveably to fix in the soil they cultivated, the solid bases of stone columns cut out of those mountains, is evident from the monumental remains of their ancient grandeur at this day existing, after the lapse of near 4000 years.

* See Diod. Sic. vol. I. p. 91.: and Strabo, lib. 17. p. 473.

A circumstance which, is in a remarkable degree corroborative of my assertions on this subject, ought by no means to be forgotten; and that is, the wide difference in the manner after which the Nile of Egypt, and some of the rivers of India respectively inundate the adjacent country. The Nile rises with an equable and gentle swell; gradually overflowing its banks, and softly gliding over the surface of Egypt. When again its stream subsides, that change does not happen by a sudden and rapid, but by a calm and gradual decrease of the waters. Neither, therefore, at the beginning nor the close of the Egyptian inundation does there appear to be any probability of boundaries having been subverted, or landmarks destroyed. On the contrary, many of the rivers which annually overflow very large districts in India are in an extreme degree turbulent and impetuous; in particular the Indus, which in its descent from the northern mountains where it has its source, with its desolating current often commits dreadful ravages in the Panjab, or country of five waters, so called from its five branches that intersect the region, beating down the strongest fences, and confounding every species of property.

If, however, the foregoing statement, sanctioned by the voice of antiquity, and implicitly admitted by the moderns, were just, the Indians, as the elder nation, have a right upon the same ground, to advance their claims to the honour of prior invention; since, as I have observed in the Indian Antiquities, "a considerable part of their country is annually overflowed by the Ganges, and many other considerable rivers." * But the truth is, that no assertion can be less accurate, than this of Diodorus Siculus and Strabo, for Herodotus expressly informs us, that geometry owed its invention to the necessity there was of adjusting the annual tribute imposed by Sesostris on the landholders, by a proper mensuration of the lands possessed by them.† But even on this ground

* Indian Antiquites, vol. I. p. 1. of the Geographical Dissertation.

† Herodotus, lib. 2. p. 109. edit. Wesseling.

the Hindoos must be considered as its inventors, because by ancient and established usage, founded on laws that go back to the remotest periods of their history, the emperors, or Maharajahs of India, have ever received a fourth part of the produce of the lands of which they were considered as the sole proprietors ; and consequently, as his strict right could only be ascertained by admeasurement, the Indians must have been, earlier than the Egyptians, acquainted with the principles of geometry. The preceding observations, indeed, only concern that portion of the science, which we call *planimetry*, and that branch of it which consists in the surveying of land ; but from the advanced state of society in the ancient world, as well as from many preceding arguments, it may fairly be inferred that to *planimetry*, or the mensuration of surfaces, they soon proceeded to the more complicated science of *stereometry*, or the mensuration of solids. As we have, in the course of these observations on geometry, descended somewhat below the antediluvian ages, I shall conclude them with noticing the very strong argument in favour of my position, resulting from the remarkable circumstance that the sciences in which the speculative and industrious race of India most eminently shone, were those to which for the most part geometry is applied. I shall in this place only particularize two, their architecture and their astronomy. In their stupendous efforts in architecture particularly, the triangular pyramid, the circle, the square, and the cone for ever occur in the internal or external parts of their temples. And by what means was it possible for such ponderous stones as, for instance, those that crown the summit of the grand portal of Chillambrum, forty feet long, and five broad, to be raised to the altitude of 122 feet, but by the aid of geometry, joined to mechanics. From what other source has it arisen that the amazing colossal carved work gnd images in Salsette and Elephanta, are executed according to the rules of such just proportion, as they are represented to be

by Mr. Hunter and others; and that such lofty columns, richly adorned with mythological sculptures, are seen elevated to a vast height in every province of Hindostan? In respect to astronomy, a science for which they have been immemorially so celebrated, it was absolutely necessary that they should be possessed of a very ample portion of geometrical skill in the most remote æras, to form those ancient astronomical tables which have been commented upon by M. Bailli and M. Le Gentil, and which have excited the astonishment of the literati of Europe.

When to this we add, that the nine numerical characters of arithmetic, though once supposed to be of Arabian invention, are of undoubted Indian original, and have been immemorially used there; the great and unequalled adroitness and success with which, according both to M. Bailli and Le Gentil, even the vulgar Indians reckon the most complex arithmetical calculations, and trace on the sand all the kinds of mathematical lines and figures used in geometry; when all these circumstances are collectively considered, my observation relative to their having really been the inventors of this science will appear to be not without a substantial basis to support it. That the ancient Druids, their immediate pupils, were also well acquainted with geometry, Dr. Stukely has brought many decisive arguments to prove.

We come in the last place, to consider the progress in GEOGRAPHICAL SCIENCE of the primitive race of men, a science in which they seem to have been miserably deficient; and above all other nations, the Indians. The ignorance of the Brahmins in this respect, is of itself a sufficient confutation of all their arrogant boasts of *unfathomable* antiquity; for is it possible that a race who have flourished, as they assert, during so many millions of years, could be so totally unacquainted, as their ancient books prove them to have been, with the dimensions of the terrestrial globe, with its various regions, and numerous nations? Allowing, for a moment,

these extravagant accounts of the duration of the *world to be* in any degree founded, must it not appear astonishing to every reflecting mind, that they are not better acquainted with that earth which they profess to have inhabited for so many revolving yugs? It must be owned, that their notions of the mundane system are altogether the most monstrous that ever were adopted by any beings, who boast the light of reason; and in truth, very little reconcileable with those sublime ideas we have been taught to entertain of the profound learning and renowned sagacity of the ancient Brahmins. Mr. Halhed himself acknowledges this, when in the preface to the Code of Gentoo Laws, he observes: —" while we commend the policy of the ancient Hindoos, we must lament their most deplorable ignorance in some of the practical sciences, particularly geography, to which they must give up all pretensions, after their extravagant description of the seven Deeps, which they suppose to be so many continents, separated from each other by an almost infinite ocean, but yet all belonging to the same world which themselves inhabit." Let then these Brahmins, the most celebrated for their erudition, the most respectable for their abilities, and the most venerable for their age and virtues, assembled at the earnest request of the Governor-general at Calcutta, in the year 1773, from all parts of Hindostan, for the direct purpose of giving a faithful epitome, from their most ancient and venerable records, declare their sentiments on this point. " There are seven Deeps, " or Dwipas, distinguished by the following names, according to the orthography of Sir W. Jones and Mr. Wilkins, viz.

" Jambu Dwipa.
Plakshyu Dwipa.
Sálmali Dwipa.
'Kusa Dwipa.
Krouncha Dwipa.
Sáka Dwipa.
Puskara Dwipa.

"The explanation of Deep is this: Deep signifies land, and on every side of each Deep is the Samooder, or main ocean; and the length and breadth of this Deep (our earth) which is called Jumboo, is one hundred thousand yojan, or four hundred thousand cose; and the length and breadth of the second Deep, is twice as much as that of this deep; and that of the third Deep four times as much; and that of the fourth, eight times as much; and that of the fifth, sixteen times as much; and that of the sixth, thirty-two times as much; and that of the seventh, sixty-four times as much." It may indeed be urged in some mitigation of their gross ignorance in this science, that the precepts of their great legislator absolutely forbidding them to pass the limits of their own country, would naturally operate as a check to that spirit of investigation so universally and so laudably indulged by other nations; but surely in the course of so prolonged a period, either accident or curiosity must have led to a more accurate conception of the divisions of the globe, and the nations inhabiting it. In one of the early volumes of Asiatic Researches, the reader studious of Sanscrit geography, will find a very curious Hindoo map, illustrative of their notions concerning the Jumboo Deep, or Jambudwipa, as Sir William Jones writes the word, with the seven ranges of lofty mountains supposed to intersect it; and it is evident from that map, that the most ancient race of Indians, notwithstanding the deductions of astronomy should have taught them better, considered the earth not as of a spherical form, but as a vast extended plane. Their profounder researches in astronomy in succeeding ages, and the inferences which they drew from more correct observation of the celestial phænomena, soon taught them the globular figure of the earth, its rotation on its axis, and annual revolution round the sun. The error, however, originally propagated continued to infect the mind, not enlightened by the improved philosophy of later periods, and the ancient maps, ex-

hibiting the earth with a flat surface, remained a lasting evidence of the contracted notions in geography of the primeval race. I use the word flat as opposed to globular, for the old Indians supposed a vast golden mountain of a cylindrical form, and called Sòmmeir, to rise from the centre of the Jumbo Deep, behind which mountain they conceived the sun to retire when night commenced. Less ancient systems of astronomy, but not less fabulous, have removed this golden mountain from the centre, and have placed it at the north pole; and, as has been recently observed, on its summit and its sides, the Indians *believe* are the different degrees of Paradise. *In a direct line from the Sommeir*, and on the extremity of the four quarters of the earth, where the equinoctial lines terminate, their romantic imaginations have placed four cities, encompassed with walls built of bricks of gold, viz. Jumkote, Lanka, Siddahpore, and Roomuck; exactly after the order in which they are engraved in the central division of the Oriental Zodiac, presented to the public in this Volume. The mountain in the middle being the mountain in question.

History ascribes to Sesostris, king of Egypt, the honour of forming those first rude outlines of geographical delineation, on which the ancients conferred the name of a map; for that conqueror having subjected to his yoke the greatest part of the earth, caused the regions which his victorious armies had traversed, to be described on tables, copies of which were, by his order, distributed over Egypt and Asia. This is the account of Eustathius:* but it is probable, that in whatever country astronomy and geometry had their birth, geography, their inseparable attendant, was first cultivated: for the observer of the celestial phænomena could not be indifferent to the terrestrial, and the necessity which compelled the mensuration of lands would naturally dictate the delineation on brass, copper, or some other durable substance of the

* In Annotationibus Dionsyii Orb. Descrip. p. 5.

districts thus measured. How little genuine knowledge, after all, they had of the earth, and in what a contracted circle that knowledge lay, is evident from their allowing it to have only *seven* climates, confining them to the regions alone supposed to be inhabited; whereas the moderns, having explored and navigated the regions nearer the pole, admit of thirty climates on each side of the equator, as may be seen in the excellent geography of Varenius. * The Indians even to this day, according to the Ayeen Akbery,† do not think the earth habitable beyond the fiftieth degree of latitude; but this ought not to surprize us, since the enlightened and adventurous Greeks thought neither the frigid or the torrid zone could be inhabited; the one from the violent heat, the other from the intense cold, respectively prevailing in those regions. The moderns, however, have discovered within the arctic circle, and even in those parts of the earth that are nearest the pole, many well cultivated and populous regions; and it is now known for a fact, that the torrid zone is throughout inhabited, even under the equator itself.

The Mosaic geography, which the hypothesis, on the most solid reflection, adopted in this Volume, compels me to consider as a relick of the wisdom of the Noachidæ, exhibits evident proof of the rapid advance in this science of the ancient Hebrews: for whether the reader will allow, or not, the inspiration of the sacred writer, his mind on the perusal must be struck with the force of one very remarkable fact, viz. that the names which are assigned by Moses to eastern countries and cities, derived to them immediately from the patriarchs, their original founders, are for the most part the very names by which they were anciently known over all the East; many of them afterwards translated, with little variation, by the Greeks, in their systems of geography. This argument is placed by Bochart, in his Phaleg, in so forcible a point

* Varenii Geographia, cap. 25. p. 319. † Ayeen Akbery, vol. III. p. 25.

of view, and is followed up by so many direct and positive proofs,* as must carry conviction to every mind, that Moses was a far more skilful geographer than Homer, whom Strabo pronounces the first and greatest of geographers, since he goes back to the very foundation of the most ancient kingdoms and cities of the world, and recounts the names and primitive history not of a few nations of Asia engaged in alliance to vanquish the Trojans, but of all that inhabit the earth, even from the Caspian and Persic seas, to the extreme Gades, and all this in one *short chapter; tracing them*† to their original, and recording at once the period and the occasion of their dispersion. This incontestible argument of its being a genuine history, and not a fable, must peculiarly interest the Oriental scholar in its favour, and doubtless tended, together with other important considerations, to engage in its defence the learned president of the Asiatic Society; for when he found in Mizraim the son of Ham, the ancient Sanscrit and Coptic appellative of Egypt, and in the Greek word Χημια, that of Cham, or Ham, the leader of the first colony to the banks of the Nile; in Cush, Ethiopia, and Chuzestan; in Raamah his son, Rama; and Bacchus in his son Bar-Cush; in Japetus, the father of the Grecian race, the Japhet of Scripture; in Gomer, the ancient Cimbrian and Cimmerian race; in Madai, the name of the third son of Japhet, the country of Media; in Elaim the Elamites, or ancient Persians; in Javan, or Ion, as the Hebrew word deprived of its vowels may be read, the Ionian colonies; in Thras, the ancient Thracians; in Tarshish, the renowned Tarsis; in Lub, Africa in general, but more particularly the tract called Lybia; in Seba, or Saba, the Sabeans of Arabia; and in Ashur, Assyria: when he found Babel derived from Belus, the profane name of Nimrod; Nineveh from Ninus, son of Nimrod; when he discovered in Sidon, the son of Canaan, the celebrated city of that name; in Lud, Lydia; and to omit

* Bochart, Geographia Sacra, lib. 3. et 4.

† Genesis, cap. x. passim.

many other glaring proofs of my assertion, in Peleg, the Pelasgi, or Pelagians; he must have been convinced, as he doubtless was, that the Hebrew historian had penetrated to the very fountain of all geography that really deserves the name of antiquity. If there existed no other evidence of his skill in this science than the accurate and circumstantial manner in which he has described the terrestrial Paradise, its situation towards the east, the rivers which watered it, and the subsequent course and division of its stream, as well as the countries and their productions in its neighbourhood, as Havilah that produced gold, bdellium, and onyx-stone; Ethiopia washed by the Gihon, and Assyria by the Hiddekel; even that circumstance alone could not fail of conferring upon Moses the palm of superior distinction in this line of science.

In truth, great rivers, such as are the Euphrates and Tigris, lofty mountains, like those in which Asia abounds, and extensive forests, form those mighty lines upon the face of the globe, which nature intended should be the distinguishing boundaries of empires and nations. The geographer, in adopting them as such, wisely fell in with her plan, and copied her model. The vast ridge of Caucasus seemed to the primitive race of Hindoos the barrier of the habitable world, beyond which they conceived all was desolate and gloomy, till greater extent of inquiry, and the irruption of the Scythians, taught them otherwise. The Indians, however, and all the ancient geographers, continually represent the earth as encompassed with the ocean: "the dark sea that surrounds the world," is an expression that frequently occurs in Asiatic writings; and Homer makes the sun and moon both to rise and set in it. The Phœnician navigators, in their daring excursions by sea, and rapid advances in astronomy, were probably the first who corrected the errors of the primitive geography: from them they received their accounts of the fortunate Islands of the west; and learned that the earth was of a form very different from that of a widely

extended plain, terminating abruptly, as Mr. Bryant justly observes they conjectured, in a vast cliff of immeasurable descent, at the bottom of which was an immense abyss of dark and stagnant water, the *mare tenebrarum* of the poets. So deep, indeed, according to the same author, did they esteem this abyss to be sunk beneath the confines of the world, that to express their ideas of that profundity, they asserted that an anvil of iron tossed from the top, would not reach it in less than ten days.* In the progress of ages and of science, they attained to a more accurate acquaintance with the divisions of the globe, and the true system of the universe. To mark that progress will be the province of a future page of this history.

The Elements being, doubtless, ante-diluvian gods of the first rank, I have thus given them a place in this ante-diluvian arrangement of mythologic science, to which period I am for referring all the transactions of æras that are irreconcileable to established chronologies. Hence I conceived myself at liberty to consider the seven Reyshees as of ante-diluvian origin, because they entered the ark of Veeshnu with Satyaurata; and Manetho's Dynasties avowedly rank Osiris, Isis, and the other five deities that form their parallel, in the first, or ante-diluvian dynasty of Egypt.

To conclude this extended retrospect on possible ante-diluvian arts and history, which after all must be considered as a mere sketch, for want of a proper basis of materials to work upon, there cannot be exhibited stronger proofs to what an early date the Indians themselves assign the origin of science, than their assertion that the first Menu, or Adam, dictated to his sons a sublime legislative code, their decorating the hand of their great deity Brahma, who, to speak without allegory, appears to be only the founder of their race and nation, with the calamus, or reed for writing, and with *olles* or Indian palm leaves, which constitute the ancient

* Analysis, vol. III. p. 56.

books of India; and their marrying that deity to Saraswatty the goddess of eloquence. By all this they plainly mean to intimate, that letters were known in the distant ages alluded to, and that not only the useful, but the polite sciences, were cultivated in æras the remoteness of which cannot be more distinctly marked, without exaggeration, than by denominating them ante-diluvian.

THE DELUGE.

Having, in the preceding pages, incontestibly shewn, that the Indians have preserved among them, even to these days, in various genealogical fragments, distinct accounts of a virtuous as well as a vicious race of ante-diluvians, that is, of a race flourishing at an æra previous to the entrance of the seventh Menu, the Mosaic Noah, into the ark, fabricated by the express command of Veeshnu to save that pious, sun-born monarch and his family from death, amidst the horrors of a certain GREAT DELUGE, in which all living besides were destroyed; we must now proceed to unfold from various and authentic sources, the train of unhappy incidents, which, it is asserted in their annals, united to bring on mankind that calamitous event.

Mr. Lord, in his Discourse of the Banian Religion, ch. vi. and vii. has stated their sentiments on this head with uncommon accuracy, as well as brevity, informing us from the Brahmins of the western shore of India whom he consulted, "that the four casts of which the first race of men consisted, degenerating from their primitive innocence—the priest neglecting his piety, the soldier becoming insolent and tyrannical, the merchant practising deceit in trade, and using false balances, and the artizan consuming the profits of his invêntions in riot and excess;—their impiety and wickedness grew at length to so insufferable a height, that God's indignation was justly provoked, and he sent a FLOOD, which

destroyed all nations without exception. In addition to this brief account of Mr. Lord, I shall make no apology for introducing into these pages, from the Lettres Edifiantes et Curieuses, the mutilated, but apparently genuine, accounts given to the missionaries by the Brahmins of the Malabar coast, intending to wind up the whole with those coming to us from undoubted authority, and obtained by British exertion at Benares in Hindostan proper. In fact, my intention is to bring into one focal point all the genuine evidence of this grand event which the natural or civil history of Asia affords, and to leave no shadow of room for future doubt, since doubts, and even the denial of such a deluge have been boldly hazarded, on this most interesting and important subject.

"The god Routeren, or Seeva, say these missionaries, the great *destroyer* of created beings, resolved, once upon a time, to drown *all* mankind, whose actions he declared had been such, that he had the greatest cause to be dissatisfied with them. However his designs, though carried on with great secrecy, were penetrated by Wistnou, *preserver* of the human race. Wistnou, by his prophetic energy, discovered the very day on which the flood was to break forth. His power was not so considerable, as that he could suspend the execution of the design formed by the god Routeren; but then his quality of preserver-god, invested him with authority enough to prevent the most pernicious effects of it, which he did in manner following.

"Appearing one day to Sattiavarti, his chief confident, he told him privately, that an universal deluge would soon follow: that the earth would be overflowed; and that Routeren intended, on this occasion, to destroy all mankind, and every animal. He bid him, however, not be under any apprehensions, for that he, in spite of Routeren, would find means to preserve him (Sattiavarti); and so order matters, that he would have wherewithal to re-people the earth. Wistnou's intention was to bring forth a wonderful

vessel or bark, at a time when Routeren should least be in expectation of any such vessel; and to shut up in it a prodigious multitude (eight hundred and forty millions at least) of souls and seeds of beings. As for Sattiavarti, he at the time of the flood, was to be upon a very high mountain, which he pointed out to him very exactly. Some time after, Sattiavarti, as had been foretold him, perceived a numberless multitude of clouds drawing together, but beheld, with unconcern, the storm which was gathering over the heads of the guilty, when the most dreadful rain that had ever been seen, poured down from the skies; the rivers swelled and spread themselves with rapidity over the surface of the whole earth: the sea broke its appointed bounds, and mixing with the rivers, which now had left their channels, soon covered the highest mountains. Trees, animals, men, cities, and kingdoms, were all drowned; in a word, *all* animated beings were instantly destroyed. In the mean time, Sattiavarti, with some of his penitents, had withdrawn to the appointed mountain, where he waited for the succour which God had promised him. However, this did not prevent his being seized with some short intervals of terror. As the water gathered strength continually as it rolled, and each moment drew nearer to his asylum, he was every now and then in a panic: but that very instant which he thought would be his last, he beheld the bark that was to save him: no sooner did he set his eyes upon it, than he immediately got into it, with all the devotees in his company, and also the eight hundred and forty millions of souls and seeds of beings. The difficulty now was how to steer the bark, and to preserve it from the impetuosity of the waves, which raged with prodigious violence; but Wistnou took care of this, for immediately assuming the shape of a FISH, he steered the ship with his tail, as though it had been a rudder. The god, who was now both fish and pilot, played his part so well, that Sattiavarti waited very quietly in his asylum, till such time as the waters had retired from the surface of the earth."

Such are the general outlines of this grand Oriental tradition, as they are to be traced in those parts of India, which are most remote from Benares, the seat of Hindoo sciences and religion, and as they have been delivered to us by accidental travellers, and resident missionaries. It is to the active investigation and more particular relation of Sir William Jones, whose enquiries were made in the very centre of all authentic information, that the reader must be indebted for a genuine narrative of this event, a narrative immediately translated from the Purauns themselves, and which, with many other interesting circumstances, shall be amply detailed in the succeeding portion of the Indian history.

THE UNIVERSALITY OF THAT DELUGE EXPRESSLY CONFIRMED BY THE INDIAN RECORDS.

Before I conclude the present very protracted chapter, I cannot omit requesting the reader to observe, how very accurately the Indian records coincide with the Mosaic writings in one remarkable point, concerning which, many learned, and even very pious men disagree, I mean that it was not a *partial* deluge, as Stillingfleet, the leader of this scrupulous band contends, but a *total* deluge with which mankind was overwhelmed. The words of Moses are so express on this point, that it is scarcely possible to conceive how any man, professing to believe those writings to be genuine and of divine original, can refuse his assent to its universality, for as "the earth was filled with violence," doubtless the earth universally suffered: as "all flesh had corrupted his way before God," so, doubtless, all flesh felt the stroke of divine vengeance. It was not, therefore the district of Chaldea only that was overflown, or, enlarging the line to the whole of Asia, it was not alone over that continent's aspiring mountains that the waters

prevailed; but, if the Scriptures are to be believed, "all the high hills that were under the *whole* heavens were covered." In the idea of a partial deluge there is a physical absurdity; for supposing with Stillingfleet, that Asia alone was inhabited, and consequently according to his hypothesis, Asia alone inundated, the waters which rose to a sufficient height to cover the summits of Ararat, and the great continued range of Caucasus and Taurus, the loftiest of the old world, and scarcely exceeded in the new, must, unless a greater miracle be suppossd, than any required to be believed in that history, inevitably, from the diffusive nature of water, rise in every other region of the globe to an equal altitude, and deluge the remaining eminences. It should be also remembered, that the successive creations and deluges of the Oriental and Platonic philosophers, of the latter of which the sceptic is fond of representing all accounts of the Noachic deluge as corruptions, were universal, and, therefore, so far from being an impossibility, a general deluge is allowed by infidelity itself. In truth, not only the traditions of all nations inhabiting the globe confess the fact; but that globe itself, as we shall presently demonstrate, throughout its whole extent, not less on its loftiest mountains than in its deepest recesses, exhibit convincing testimonies of its total desolation, and of its universal immersion.

CHAPTER XIII.

CONTAINING THE ORIENTAL ACCOUNTS OF THE GENERAL DELUGE.

That there has been a general Inundation of this terraqueous Globe, proved from the unanimous Voice of all Nations, and innumerable Eastern Traditions—from the abrupt Appearance of the Surface—from the disordered Strata of its internal Regions—and from an infinite Variety of fossil Bodies, animal and marine, dug up in Climates where the Animals could not possibly have existed, when alive—Plants and Animals, for instance, peculiar to the East Indies and America, found fossil at the greatest depths in Siberia, in Germany, and in Britain—particular Accounts of the Remains of an Elephant, an Hippopotamus, and a Crocodile, dug up in Britain—All the great recorded Inundations of the Globe, in ancient Periods, to be referred to the Noachic Deluge—and all the Indian and Platonic Doctrines, relative to the successive Deluges and Conflagrations of the Earth, to be traced to traditional Fragments of the Ante-diluvian Sethite prophecy on that Subject—Mr. Whitehurst's System, relative to Volcanoes principally contributing to bring about the Deluge, one of the most rational and judicious.—The Matsya, or Fish Avatar—the Vara, or Boar Avatar—the Courma, or Tortoise Avatar—successively detailed.—All have immediate Reference to the Deluge of Noah.

WHATSOEVER objections may have been urged, and sometimes justly urged against particular portions of the Analysis of Ancient Mythology, in my humble conception, no facts can be more firmly established than the following are, in that most learned and laudable

undertaking; I mean that the general deluge was the grand epocha of every kingdom of the ancient world; that the first post-diluvian king in every country, under whatever title he may have been distinguished, was the Mosaic Nuh, or NOAH; and that the most ancient monuments and principal memorials of all nations allude to the ruin of mankind by the former event, and to the renewal of the world in one family. Every additional step, which my subject leads me to take on that hallowed ground of antiquity, which Mr. Bryant has so ably traversed, confirms my belief, that in all their varied mythology, we must look upon the great patriarch as the ULTIMATE, in whom the history finally determines. He was the Xisuthrus of Chaldea, the venerable Κρονος of the Phœnicians, the supreme Osiris of Egypt; the ancient Fohi of China; the great Dionusus, or Bacchus of the Greeks; and, doubtless, the Satyaurata, or seventh Menu of India. Early canonized and adored by his too grateful posterity, to that most ancient monarch of the earth properly belonged most of the symbols of the post-diluvian Pagan deities, that is, the future heroes of his line exalted to the rank of divinities. In Noah we find the great Jupiter himself, the august sire of gods and men; although the timid dove be converted into a towering eagle, and the peaceful olive-branch that decorated its mouth, into a wasteful thunderbolt. In Noah we recognize a nobler Neptune, whose trident first clave the astonished deep. He was the great Prometheus, whose virtue brought down the true fire from heaven, to kindle the hallowed flame of the first altar erected after the flood; the sage fish-god, Oannes, that taught the first principia of the sciences to the renovated race of man; the only genuine Deucalion; the mighty Janus Bifrons, with one majestic aspect turned towards each of the two worlds in which he lived, the desolated and the regenerated world, and the keys of which adorned his hand, and who is called in India, Ganeses, the guardian of the hospitable portal, and the benevolent conveyer to

heaven of the petitions of the supplicating sons of *Brahma*; the parent of agriculture, to whom, therefore, the bull both in Egypt and India was consecrated; the planter of the vine, the institutor of all sacred rites, the founder of all civil ordinances, and the fountain of all post-diluvian arts and sciences.

The interesting region of India not having been so extensively explored, nor its venerable monuments and genuine history so accurately known, when Mr. Bryant wrote, as they are at present, through the exertions of the *Asiatic Society, it will* not, I trust, appear presumptous in me, *although I can by* no means boast that *gentleman's profound* knowledge and solid judgment, to attempt to extend his observations on the head of the general deluge to India, and to enquire if ancient Sanscrit records of undoubted authenticity, do not afford as ample proof of that grand event, as the records of any other kingdom of Asia.

We have already repeatedly mentioned it, as the decided opinion of Sir William Jones, our only certain guide on this intricate subject, that the most ancient Sanscrit histories do absolutely and unequivocally allude to this catastrophe, and that especially those which relate to the three first Avatars, are entirely founded upon it; that the name of the virtuous monarch, miraculously preserved in the manner to be immediately related, is Satyaurata, whose patronimic name was Vaivaswata, or child of the sun;* and I have before observed, that such a genealogy as this in the historic page of India, is only a shelter for absolute ignorance of his real ancestors, and a proof that they can mount no higher in human genealogy. We have his express authority for asserting, that in this supreme Menu, or Nuh, as Sir William asserts Noah was called by the Arabians, and he adds, probably by the Hebrews themselves, though we have disguised his name, all the fourteen fabulous Menus mentioned before, and whose origin seems to be

* Asiatic Researches, vol. I. p. 230.

purely astronomical, are verified and centre, and that it is to some obscure notions of his character, office, and history, that the whole train of their most early mythologic chimeras may be traced.* The present is rather an early period for the discussion, considering how recently all genuine Sanscrit information respecting India has been acquired, and how much more valuable sources of intelligence are likely soon to be opened, by the exertions of Mr. Wilford, and other oriental scholars; but, having undertaken to detail the Indian accounts of this disputed event, I shall proceed to state them, as far as known, with fairness and precision, satisfied that the candour of the reader will be proportioned to the difficulty and intricacy of this hitherto little investigated subject.

The almighty Creator, seeing that the elements of nature, his secondary agents, had usurped, as we intimated in the preceding chapter, the worship due only to himself from man, resolved to punish the rebel, by means of the imaginary gods to whom they paid this idolatrous obedience. As those elements, by their union and coalescence at the creation, had materially contributed to produce the harmonious system of nature; so now, by their discord and outrage, they were to become the principal instruments of its disorganization; to vindicate his authority, and to manifest his supreme control over that nature which they adored, and that matter which they made eternal; he, for a season, inverted the order of the one, and changed the properties of the other. The earth and atmosphere were convulsed, and flame and water usurped the place of each other. In vain do naturalists, by alleging physical causes, utterly inadequate to the effect, endeavour to solve the phænomena of this stupendous event; if there are some which can be explained by human science and ingenuity, there are others, it must still be confessed, that wholly elude their united research. It will be the object of the present chapter to investigate this

* Aaiatic Researches, vol. I, p. 239.

interesting subject with that attention which its high importance demands, and what particularly falls within the province of an Eastern history, to examine into the Oriental traditional accounts concerning it, as well those anciently known, as those recently discovered.

It has been observed, in a preceding page, that there exists in India an atheistical sect of philosophers, of the name of Sanchia, who exalt nature, instead of nature's God, to the honours of A FIRST CAUSE, and resolve all its wonderful phænomena into the sole agency of motion upon matter. These assert that the atoms of which the universe is composed, have existed from all eternity, and will continue to exist through all eternity; incessantly changing their position, and varying their form; and that from this perpetual fluctuation, this restless activity of the grand elementary principles, all the wonderful vicissitudes in the universe may be accounted for; in short, that by their powerful agency alone, the orbs of heaven revolve, new worlds spring into being, and old ones rush to dissolution. Exactly conformable to these sentiments, or perhaps copied from the elder atheistical school of India, has been the language of infidelity in every æra of the world.

Some of these sceptical writers, in vain confidence, are for ever exclaiming;—man, exalted by distinguished mental endowments, is eternal, like the stars to which he is allied. Individuals successively mingle with the dust of the globe, of which their corporeal nature is composed; but after the decomposition of their corporeal atoms, are soon renovated, and experience various vicissitudes of being; while the human species itself, remain, through infinite ages, unimpaired and immortal From eternity this ponderous globe of earth and water, has continued to roll, and to eternity shall perform its undeviating career. During the countless ages already revolved, every portion of the globe has successively been the bed of the ocean: every part has been inhabited and

cultivated, the alternate strata of sand and soil, interspersed throughout with animal exuviæ, and vegetables, prove the fact beyond contradiction, and their existence there prove that it must have been so cultivated and so inhabited for a very extended series of ages, or those strata could not have been thus formed, and those exuviæ thus deposited. The ebbings and flowings of the ocean have been the principal cause of the slow and silent, but irresistible, changes that have taken place through universal nature, where every thing suffers change, but nothing is destroyed.

Others again address us in a less confident tone, and though they do not allow of the eternity of the earth, place the æra of its formation in periods inconceivably remote. These writers are for ever speaking with contempt of the inferior planet, which we inhabit, in order to shew the *contracted* system, as they would insinuate it to be, upon which are formed certain dispensations, to which they have invincible objections : and in this manner the latter are fond of exclaiming.

During the immeasurable periods that have preceded the present system of men and things, innumerable revolutions have taken place in this diminutive portion of the universe, the alloted abode of that insignificant animal, man. Endless convulsions have harrowed up its surface, and rent its internal regions : we inhabit only the ruins of a former world more glorious and perfect ; we are the dregs of a race of beings of sublimer nature and intellects. There has been, from the earliest periods of time, a progressive change of land into sea, and of sea into land, and there is a perpetual diminution in the volume of the waters of the ocean. As those waters gradually subsided, the vast elevations on the globe were formed ; stupendous mountains were reared in one region, while immense vallies were scooped out in others ; but man, short-lived, transient being ! has neither time nor opportunity allowed him to mark these gradual vicissitudes that take place in the course

of rolling ages. Man, however, by using his reasoning faculties, and by analogy, is enabled to form some comprehension relative to the true system of nature; and in a small degree, her operations are witnessed by himself; for every coast of the earth exhibits evident proofs of this recess of the sea on the one hand, and the encroachment of it on the other. In the East, the deep excavated bays of Arabia, Bengal, and Cambaya, and the whole corroded shores of Asia, demonstrate its intrusion in that quarter; while, from a series of observations, it is evident that the circumference of most of the coasts of Europe has been greatly extended within a few generations; and some philosophers have conjectured, that in the course of 4000 years, the Baltic, the depth of which at present does not exceed thirty fathoms, will be totally abandoned by its waters.*

To each of these fanciful and sceptical systems an answer, and it it is hoped, a satisfactory one, shall be returned in the course of the subsequent investigation; let us, however, previously, and in succession, briefly consider what general evidence of this grand event, the surface and strata of this globe exhibit. 2. What may be found in ancient Oriental traditions, not directly Indian: and 3. Let us minutely examine the history of the three first Indian Avatars, and how far they may be considered as corroborating this disputed doctrine, not of a *local* and *partial*, but of an UNIVERSAL Deluge.

Those sceptical philosophers who assert the eternity of the earth, are not so weak as to deny that a general inundation of its superficies has taken place; but then they attempt to shake the particular proofs of the Noachic deluge by insisting that, during these immense periods of its duration, there has been a succession of deluges, which at certain vast imagined intervals, have burst with resistless violence upon the globe, and swept away its inha-

* Buffon's Natural History, vol. IX. p. 256. London edit.

bitants. We have already discovered, among the Indians, the source of a doctrine so entirely consonant to their notions relative to the corruption and regeneration of all objects in nature; and we have traced it downwards to the schools of the Sabæn Arabians, and Plato.

That astronomy, by which we have already shewn the whole ancient world was so deeply infatuated, may be considered as the foundation of these extravagant and senseless chimeras; for as they conceived the heavenly bodies, by the powerful influences which they dispensed, to be productive of all the great vicissitudes in nature, and as they assigned to Cancer, the solstitial summer sign, or fiery gate of heaven, the office of burning to cinders the ignited globe, so had they also resolved that Capricorn, the solstitial winter-sign, and denominated by them the celestial floodgate, whensoever a conjunction of all the planets took place in that constellation, should perform the task of inundating the globe. Of one universal deluge the ancients found indubitable testimonies, and preserved innumerable traditions; those which preceded it they wisely supposed to be beyond the reach of human records; and of those which were to succeed, they left the proofs to the great revolutions of time, and to the experience of posterity. Nature said they, is uniform in her operations, and will not fail ultimately to vindicate our assertions.

The surface of the globe does, indeed, exhibit to us the apparent *ruins of a world,* and these are justly supposed to be the effect of some vast inundation, operating, together with other causes, as earthquakes and subterraneous fire, to its disarrangement; but as there does not exist, in tradition or history, any authenticated account of an *universal* deluge having happened in ancient times, besides one, those who are not to be imposed upon by false reasoning, are naturally induced to refer it to the operations of the Noachic deluge, since no more solid argument

can be brought of its having been effected by many successive or partial deluges, than of one grand deluge such as that of Noah is represented to have been.

One just and general answer may, indeed, be given to all the objections arising from the records, preserved in most countries of there having happened, at various epochs, repeated deluges, which is, that most of those records, and in particular the Indian and Chinese, fix at least *one of those deluges* to a period very nearly corresponding with the Noachic æra of the flood. That æra agrees with the most esteemed chronologies of ancient nations, and with remarkable accuracy to the period of the commencement of the Cali age of India, which, according to the Brahmins, commenced between four and five thousand years ago; the Brahmins, a race the most romantic of all others in the fabrication of their system of chronology, and the desultory wildness of their historical details.

Let us now, in proof of the preceding observations, take a cursory survey of the SURFACE of the globe, and see if, in particular, those Asiatic regions, concerning whose inhabitants we treat, exhibit any decisive testimony of the awful event under consideration.

Than the circumstance of at least *one* grand, universal, destructive inundation having taken place in some remote æra of the world's existence, no truth can possibly be imprinted more generally, nor in more conspicuous characters, on the ample volume of nature. Nor on the surface only has the finger of Omnipotence stamped those characters; they are deeply and indelibly engraved in its most internal regions, and in the very bosom of the mineral world. The vestiges of it are not only visible in the eternal mountains that lift to the sky their steep, rugged, and broken summits, they may be traced on the heart of rocks of granite and porphyry, whose basis is rooted in unknown depths; but whose

yawning precipices, whose dark, shattered, and frightful cliffs bear indubitable marks of the grand revolution, which agonizing nature has undergone. The extreme northern and southern regions of the great empire, whose history these pages record, afford no unimpressive evidence of this grand convulsion of nature. Let the sceptical Brahmin, for such there are,* who, contrary to the testimony of the sacred volumes that are the rule of his faith, denies this great event, turn his contemplative eye towards the northern frontiers of the country he inhabits, and attentively survey that stupendous chain of mountains which separate Hindostan from Tibet on the one hand, and from Persia on the other—the steep bare, and broken ridges of Imus Tag, the Imaus of the ancients, and the black and frightful precipices and hideous chasms of Soleyman Cub, a part of the ancient Caucasus, and he possibly may find, on the survey, solid ground to alter his opinion on this head. Now the abrupt and snowy range of mountains, to which the Tartars have given the name of Imus Tag, forms the southern boundary of the province of Cashmere; a province the most delightful in all India, and concerning which the Ayeen Akbery contains an account very deserving the notice of the sacred antiquarian. For the ancient traditional histories of the country relate, that the whole immense valley of Cashmere remained, for many ages, submerged in water, and that a celebrated Brahmin, of the name of Kushup, led thither a colony of Brahmins to inhabit the valley, after the waters had subsided. This is a very remarkable fact, and rendered still more so by the additional account in the Ayeen Akbery, † that the civil history of the country, after its emersion from the overwhelming inundation, goes no farther back than about 4000 years, when the said Kushup, "a man remarkable for the austerity of his manners," a

* See the Preface to the Code of Gentoo Laws, p. 43. 4to. edit.

† Ayeen Akbery, vol. II. p. 179.

feature of the rigid Cuthite worship, led his colony thither. From the express words of this authentic book, which say that "in the early ages of the world all Cashmere, except the mountains, was covered with water,"* added to the abovementioned strong corroborative circumstance, no doubt remains with me that the waters alluded to were the remains of the general Deluge, and that the leader of the colony was either CUSH himself, the son of the great Indian god, RAMA, or one of the Cuthite progeny, assuming the name of the patriarchal head of the family. In this light the matter appears to my mind; it may strike others differently; I only adduce it as collateral evidence.

On the other hand, let him take an attentive survey of the southern extremity of India, and behold the shattered fragments of a disparted continent, in the ruins of the great island of Ceylone, or Tabrobana, and the Maldives, which, according to traditions, considered as sacred on the spot, were anciently joined to the main land of India; let him turn to the map, and contemplate the form, the magnitude, and the number of the other islands scattered over the vast Indian ocean in those latitudes; and while he learns from natural history, that the opposing strata of their respective shores very accurately correspond, and that the regions themselves abound in productions mineral and vegetable, by no means dissimilar; let him not precipitately oppose an hypothesis which has reason for its basis, and traditional records of the most venerable antiquity for its support. In the accomplishment of this stupendous event we shall presently discover that subterraneous fire, not less than water, collected from all the treasures of nature, was made use of; for natural history acquaints us that volcanic eruptions, as was observed in the preceding chapter, have been common in these regions from the remotest periods, and, at intervals still continue to rage. In the supplemental

* Ayeen Akbery, vol. II. p. 179.

volume to his Natural History, M. Buffon informs us, that "volcanoes are frequent in Japan: this country is also more subject to earthquakes than any other part of the globe. In many places of Japan there are hot fountains. Most of the Indian islands, and all the seas of those eastern regions, present to our eyes nothing but peaks and detached summits, which vomit out fire, and deep indented coasts, the relicks of ancient continents which are now no more."*

And now, with respect to the asserted slow conversion of sea into land, and the system that every part of the globe has been at some period or other, during the ceaseless revolution of ages, successively covered with the waters of the ocean, which has therefore necessarily deposited the exuviæ of animals, peculiar to that element, upon its superficial regions; notwithstanding this system has been ably defended by the last cited writer, it can by no means be supported in such an extent as is necessary to solve the various subterranean phænomena that present themselves to the naturalist. Far more probable and satisfactory, though not without its peculiar difficulties, is the hypothesis previously hinted at, which was first promulged by Signior Moro, and afterwards extended and amplified by Mr. Whitehurst, that earthquakes and volcanic eruptions have elevated the bed of the sea, and, together with it, forced up the exuviæ reposited in its bosom, to the lofty mountainous situations in which they are often found. Geological investigations, added to numerous instances of this kind, within the memory of the present generation, indubitably establish the possibility, as well as rationality of this system, even though all the phænomena cannot be accounted for. According to Sir William Hamilton, the mountain called Montagno Novo, near Puzzoli, which is a hundred and fifty feet high, and three miles round, rose in one night out of the Lucrine lake, in 1558. He also

* Natural History, vol. X. p. 190. London Edit. 1791.

informs us, that in the year 1628 one of the islands of the *Azores*, rose up from the bottom of the sea, which, in that place, was 160 fathoms deep; and the island in question, which was elevated in fifteen days, is three leagues long, a league and a half in breadth, and rises 360 feet above the water.* According to Mr. Pennant, in the space of six months, within this present century, an island was formed in the Archipelago, three miles in compass, and forty feet in height. In the year 1783, there was an eruption of a volcano in Iceland, the lava of which covered an extent of fifteen miles long, and seven broad, its perpendicular height being from sixteen to twenty fathoms, so that it covered every village it met with, as well as several hills. In February, 1784, two islands appeared, and one particularly, where the water before was upwards of one hundred fathoms deep; both (when Mr. Pennant wrote) were above half a mile in circumference, and as high as the mountain Erian in Iceland, and were then burning. In the eruption of Etna, 1669, the matter thrown out amounted to ninety-three millions eight hundred and thirty-eight thousand seven hundred and fifty cubical paces: which had it been extended in length upon the surface of the earth, would have reached more than ninety-three millions of paces, which is more than four times the circuit of the whole earth. The reader too will permit me to repeat a part of what I formerly offered to his consideration on the subject of volcanoes; that the stupendous peak of Teneriffe was an extinguished volcano, and that the famous high mountain in Ceylone, called Pico d'Adama, at certain seasons still shews the latent fires which originally contributed to its formation. The great island of Japan, according to the accounts of travellers, is a vast storehouse of volcanic fire; all the more conspicuous mountains continually burning, and the neighbouring sea by night gleaming with the numerous fires which issue from the summits

* Sir William Hamilton's Observations on Vesuvius and Etna, p. 159.

of the mountains submerged in its bosom. The Philippine and Molucca islands, Java, Sumatra, and Ternate, all abound with volcanoes—volcanoes that probably rent them from the great continent adjoining, and dispersed the shattered fragments of the Asiatic world over the Indian ocean. For the accomplishment of these stupendous events, I repeat it, we need not refer to an imaginary eternity; the period of the Deluge affords a date sufficiently distant in the annals of time, and, in my humble opinion, that was the precise period of their disruption.

After taking this transient survey of the external surface of the globe we inhabit, let us attend to the evidence afforded by its interior regions of this grand convulsion. An astonishing variety of fossil bodies, animal and marine, often found in the deepest cavities of the earth, imbedded in the very heart of masses of porphyry and granite, and dormant in the profoundest mines, at the greatest distance from the ocean, are justly considered as exhibiting the most decisive testimony of it. If the animals, whose petrified remains have been thus dug up, had been natives of the regions in which they have been discovered, the wonder of the exploring naturalist would have been less powerfully excited; but this is by no means the case, for on the contrary, it has generally happened, that the most numerous and important acquisitions of this kind have been found in places where, from the extremes of heat or cold, hostile to their nature, they could not possibly have sustained life. Thus an immense collection of fossil bones, teeth, and horns, belonging to the elephant, rhinoceros, and buffalo, dug up in Russia and Siberia, is to be seen in the royal Museum of St. Petersburg, and in that of the Russian Academy of Sciences. Mr. Pallas, the great investigator of these northern antiquities, observing their infinite number, and their general dispersion, was, at first, of Buffon's opinion, that the climate of that region must have been, in the earliest ages of the world, widely

different from what it is at present, and sufficiently warm and genial to be the place of the birth and residence of these quadrupeds, now found only in tropical latitudes. But this hypothesis, when he came to examine with accuracy, and in person, the particular spots where the fossil remains most abounded, he renounced for the more rational and consistent one of their having been transported thither by means of some sudden and general inundation, such as the Mosaic deluge is described to have been; for in the first place, the bones *appeared in separate accumulated masses, as if they had been dispersed by the waves*; in the second place, they were incrusted with a stratum of marine mud; and lastly, they were throughout intermixed with aquatic plants and shelly substances, the evident superstratum of the former bed of the ocean.*

With respect to the supposed changes in the climate of Siberia, and indeed to any arguments founded on an imagined alteration in the obliquity of the ecliptic, by which it is insinuated that the earth might anciently have revolved round an axis so far different from that on which it now revolves, as that Siberia might be immediately under the equator, and consequently that the animals, whose constitution and temperature are known to be such that they cannot exist without the line of the tropics, were once natives of regions which are at present included in the *frigid zone*, they must necessarily be futile, for various and very forcible reasons. The decrease of the obliquity of the ecliptic, if allowed to the extent demanded, and computing after the highest rate of decrease ever yet pretended, is about one minute in a century; now to transfer the northern tropic to the arctic circle, that is, to bring back the 60th degree of latitude, in which at present lies the country of Siberia, to the 15th, the latitude in and near which they are only now found to increase and multiply, would carry

* Pallas de Ossibus Siberiæ Fossilibus, p. 440. *et seq.*

the existence of these supposed elephants back to the distance of 250,000 years from the present date. Indeed Buffon by allowing this decrease to take place only after the, perhaps, more accurate computation of 45 minutes to a century, removes this æra to the distance of 360,000 years, at which period, he says, the earth revolved round an axis 45 degrees distant from that upon which it at present turns, the 15th degree of latitude being then the 60th. To this argument, which is intended to give an immense duration to the earth, and to overturn not only the Mosaic, but all existing chronologies whatever, it may be replied, that this decrease of the obliquity of the ecliptic is by no means permanent and successive; if any variation takes place in it, it is vibratory, and is said never to exceed the limits of nine degrees, a period not sufficient for the original supposed deposition of these bones within the tropics. If, however, that idea could be allowed, there are other circumstances that render the hypothesis inadmissible; for had these animals been buried at the immense distance of time contended for, no fragments of them could possibly have remained in the sound state in which they are now found, for they are dug up, as M. de Luc has judiciously observed, in such a high degree of preservation as absolutely excludes every idea of very remote antiquity. Thus the carcass of a rhinoceros was discovered in Siberia, with a part of its skin entire, and the hair still upon it. Two teeth of an hippopotamus, and the entire tusk of an elephant, nine feet in length, which is one of the largest ever discovered, together with other bones of the same animal, were found buried at the distance of thirty feet under ground, by some workmen of Mr. Trimmer, at Brentford, six miles from London: these I have had an opportunity of personally examining, together with a great variety of petrified nautili, and other marine remains, dug up at the same time, at this great distance from the sea. The reader will find an account given by Dr. Stukely, in the Philosophical

Transactions,* of the petrified remains of a crocodile, of which the Doctor observes, the bones themselves, incorporated with the stone, are at this day to be seen as plainly as if preserved in an Egyptian mummy; and there is a very particular account of the discovery of the remains of an elephant, with an engraving of a grinder of enormous dimensions, to be seen in the same authentic production, which fell, together with part of the rock from an exceedingly steep cliff, undermined by the waves of the sea, at Munsley, a village situated close to the sea shore, in East Norfolk. This animal, Mr. Baker, the writer, observes, cannot possibly be supposed to have been buried in that spot by the Romans, as some persons have conjectured, concerning these and similar remains of exotic animals found in Britain, for it was imbedded in the heart of a rock, overhanging the ocean. He reasonably concludes that the animal, which, by his account, must have been of immense magnitude, was left there by the waters of the Deluge; observing on the subject of the mighty changes that have befallen our earth, that " if the axis of it were, by the divine permission, to be in the least degree shifted, and its centre of gravity altered, what an universal change in the face of things must be the inevitable consequence!—what inundations, sweeping every thing before them!—what breaches in the earth!—what hurricanes and tempests, till the rolling waters had found an equipoise! In short, all parts of the world would, by such a convulsion, acquire different degrees of heat and cold from what they had before experienced; seas would be formed where continents had been; continents would be torn asunder, or perhaps split into islands; the ancient bed of the sea would be converted into dry land, and appear as at first covered with shells and marine bodies; of these the action and nitrous salts of the air would in a few years moulder away, and turn to dust those upon the surface, while such as were

* Philosophical Transactions abridged, vol. IV. p. 272.

buried deep would be preserved, and remain entire for ages. Such would probably have been the fate of inanimate things, but as to living creatures, they must have been almost universally destroyed, and buried in the ruins of the world, as perhaps this elephant may have been."*

In the mountains of Canne, Mr. Whitehurst informs us, half a league from Meastrick, the vertebræ of a crocodile, thirty feet long, were found in a stratum of sand-stone, well preserved. The remains of a crocodile were also found, buried in a stratum of stone, at Blenheim, the seat of his grace the Duke of Marlborough; and now make a part of the curious collection of the learned Mr. Bryant, who confirmed to me the above account, given by Mr. Whitehurst.†

In the same Philosophical Transactions, may be read an account, communicated by Mr. John Somner, of the petrified remains of an hippopotamos, or behemoth, found in the month of September, 1688, by some workmen who were digging a well on the estate of the writer, at Chartham, near Canterbury. The stratum in which they were deposited, was a bed of sea sand, at the depth of seventeen feet; and the upper jaw and grinders which belonged to the animal are engraved in Grew's Rarities (Plate I.). The account of Mr. Somner is accompanied with some ingenious strictures, which evidently prove that they must have been buried there before the time of the Romans; for that part of Kent was then uninhabited, as may be proved from Ptolemy and the Itinerary of Antoninus. Our author is of opinion, that the period of their deposition there, was at that remote æra when, according to ancient tradition, the sea burst through the narrow isthmus between Dover and Calais, and Britain was rent from the continent. Previous to that irruption of the ocean, he conceives that the great plain which

* Philosophical Transactions abridged, vol. VIII. p. 399.

† Whitehurst's Inquiry, p. 29.

is now called the Marsh of Romney, and the whole *fertile valley* of near twenty miles in length, through which the Stoure now runs, and on which Canterbury, Chartham, and Ashford, stand, was once covered with its waters; but which retired from them when the action of the tides, continually beating on the aforesaid isthmus, had worn it away, and opened a passage for the junction of the German and British seas. But if ever in reality this event did take place, it was probably at the same period of general convulsion: that grand inundation which burst *open the straits between* Sicily and Italy, and which rent *Ceylone* and the *Maldives from* the Indian continent.

The great naturalist, Sir Hans Sloane, communicating to the Royal Society an account of some fossil curiosities in his museum,* has entered very largely into the history of these subterraneous remains found in different parts of this country, illustrated with engravings of teeth and bones of gigantic dimensions, in a plate subjoined. He very successfully combats the idea of this multitude of elephants having been brought into Britain by the Romans, who, he allows, made great use of these animals in their military expeditions; first, on account of the magnitude of the skeletons, which in many instances, exceed any that ever were, or could be brought alive into Europe: secondly, from the condition in which the remains are found; and thirdly, from the particular disposition of the superincumbent strata, from which, to use his own words, it appears almost to a demonstration, that they must be of much greater antiquity, and that they could not have been buried in the places where they are found, or brought thither by any other means than by the force of the waters of the universal Deluge. For he farther observes, if the skeletons of elephants thus found under ground, and often at considerable depths, had been buried there either by the Romans, or any other nation, the strata

* See Philosophical Transactions abridged, vol. VI. p. 205.

above them must necessarily have been broken through and deranged, whereas, a variety of observations evinces the contrary to have been the case; and this order and regularity of the strata afford proof that the remains found beneath must have been deposited, if not before, at least at the very period when those strata were formed, consequently long before the time of the Romans. His concluding argument, and a very strong one it is, is derived from the circumstance of the great value of ivory, at all times, in the ancient world, and more particularly among the Romans, with whom it was an article in the highest estimation, both for ornament and commercial purposes; and who therefore, he presumes, when they buried, or threw into lakes, the deceased animals, would certainly not have neglected previously to extract the ivory tusks and grinders; whereas, it has almost universally happened, that wheresoever the remains of an elephant have been dug up, the teeth and tusks have been found with them.*

In the same volume is an account by Mr. Neville, of the teeth and exuviæ of an elephant found on the grounds of the Bishop of Kilmore, in the north of Ireland, of such a stupendous magnitude, if we may argue from their appearance, compared with the dimensions of the bed in which they were found, which was 34 feet in length, and 12 in breadth, as could not, he thinks, have been brought thither by any vessels anciently used in navigation, and therefore, in his opinion, they must have laid there ever since the Deluge. Only the teeth could be preserved,; a part of the enormous jaw-bone and skull mouldered away when exposed to the air. Great variety of other fossils of an enormous size are also found buried in the bogs of Ireland, particularly the vast horns of the moose deer, an inhabitant of the northern regions of America, and some of these horns are of such magnitude as to measure near 12 feet between the extremities of the horns, and are in length six

* Philosophical Transactions abridged, vol. VI. p. 218.

feet four inches, which being treble the dimensions of any of that species ever brought over from America, are justly ranked among those fossils, by naturalists denominated *diluvian*. Those bogs are indeed a treasure-house of similar curiosities, which, as living similitudes have not ever been heard of, or seen in that country, can only be accounted for by referring them to that grand catastrophe of nature.

But there are not only reposited fossil bones, and marine exuviæ without number, at the remotest distance from the bed of the sea, but whole trees of extraordinry magnitude, nay even forests of great extent, have been discovered at the profoundest depths, with their leaves and branches entire; while ears of corn, fruits, and vegetables of unknown species, are often found embosomed in durable granite, or enchased in transparent jasper. A circumstance not a little remarkable and corroborative of our hypothesis, that they were actually transported thither by the waters of the Deluge, is, that they are universally placed there, not in a perpendicular, but in a horizontal direction, as if borne down by the violent influx of the waters; that many of the fruits and plants found petrified in European quarries, are as foreign to the clime as the animals before alluded to, and are generally of a larger growth than those of our cold northern latitude; for the truth of which the reader is referred to Woodward, who though, in supposing a total dissolution at the Deluge of all the solid parts of the earth, he advanced a very absurd hypothesis, yet has wonderfully extended and illustrated the science of fossils. The variety of East Indian fossils of the vegetable kind, found in Europe, is amazing. In the Academy of Sciences, it is remarked that all the impressions on the figured stones of St. Chaumont in France, are those of foreign plants, which are not to be found in any part of that country, but that they are in general natives either of the East Indies, or of the

warmer climates of America; and it is added, that M. Leibnitz beheld with astonishment the impressions of the leaves of many plants peculiar to the East Indies, upon some stones in Germany. The ingenious author of the Memoir remarks, that during some of the grand (supposed) revolutions that have befallen the globe, the Indian and Atlantic oceans might have poured in upon Europe, and that the waves would naturally bring with them the plants and other vegetable productions of those regions which they embraced, and deposite them on the inundated continent.* As, however, there is only one grand revolution ever minutely recorded in the annals of mankind, we may safely refer them to that one, even the Noachic.

To shake the system above attempted to be established, it has been urged that the shells, the fruits, and vegetables, thus discovered, are not in reality what they appear to be, but are a kind of *lusi naturæ*, the former resembling other figured stones, and the latter being absolutely stone plants, their matter and texture being perfectly the same with that of the rock, or quarry, whence they are taken. But chemical experiments have proved this doctrine to be grossly erroneous, the fossil shells yielding in analysis the very same essential marine salt, though not in such large quantities, as those shells with which, in external form, they so exactly tally. In the same manner it has been asserted, that the apparent teeth, bones, and other remains of animals were similar *lusi naturæ*, and generated upon the spot where they are found; but in the celebrated productions, now lying before me, of Scylla and Fabius Colonna, on the subject of this kind of petrifactions, and the glossopetræ, or sharks' teeth, found so plentifully in the island of Malta, it is proved that these remains, when calcined by a strong fire yield ashes the same with those of the bones of animal bodies,

* M. de Jussieu in Acad. des Scien. Année 1718, p. 3.

and entirely different from those produced by calcined stones. These glossopetræ form a very curious part of fossil history. They have the appearance of a serpent's tongue petrified, whence they are thus denominated; are generally of a triangular figure, are often found quite straight, though sometimes bent in a variety of directions, and of colours various, black, blue, and brown. They also differ as much in magnitude as in form, some being four or five inches in length, others not half an inch; and they are often much worn by attrition, as may be seen in the various engravings of those books; a circumstance that proves, beyond all doubt, their indentity with animal bone. Besides, these glossopetræ, M. Buffon acquaints us, are often found in the very jaws, polished and worn smooth in the extremities; and consequently must have been made use of during the animal's life; while in many shells the very pearls are found which the living animals of the same kind produce. In farther proof also that fossil shells are real, and not factitious ones, from the same author may be produced the following very curious fact. The fishes called the purpura and pholades, have a long pointed proboscis, which serves them as a kind of gimlet, or drill, with which they pierce the shells of living fish, on whose substance they feed. Now among fossils a very great variety of shells, thus pierced, are found, affording incontestable proof that they heretofore inclosed living fish, and that these fish inhabited places where the purpura and pholades preyed upon them.*

To sanction the hypothesis that gives an immense duration to the globe we inhabit, it has been urged, that the marble columns and edifices of Egypt, erected at least three thousand years ago, display, in the granite or porphyry of which they are formed, multitudes of shells, as well as various other petrifactions of marine substances. Steno, in particular, observes, that the ancient walls of Volatora in Tuscany, that have been standing 2500 years, are

* Acad. des Scien. Année 1718, p. 3.

also full of shells.* These periods reach back so near to the æra of the Deluge, that there scarcely appears sufficient time to have elapsed for their union and consolidation with the mountainous masses, out of which the marbles were hewn. But it is by no means asserted of these more ancient monuments, that the shells being thus incorporated with their substance was solely effected by the Deluge. Mr. Whitehurst offers a very ingenious, and, as I conceive, satisfactory solution of this difficulty, if in reality it be one, by observing, that at the creation, the whole mass of matter forming the globe which we now inhabit was in a state of fluidity, consequently that the particles of matter, which now compose the strata, and all other solid bodies, being not yet fixed by cohesion, were actually in a state of separation, like particles of sugar, or salt, dissolved or suspended in water. In this state of suspension in their watery menstruum, they composed one general undigested mass or pulp, in which all the elementary principles were confusedly blended together; the whole was a chaos, literally *without form and void.* At length, obedient to the laws of attraction and gravitation, the component atoms of the globe became combined and incorporated into one mass; bodies of the greatest density began their descent towards the centre of gravity, and those of the greatest levity ascended towards the surface. Thus the process of separation still went on, and the earth consolidated every day more and more towards its centre, while its surface became gradually covered every day more and more with water, until, in strict conformity to the Mosaic narration, the sea prevailed universally over the earth.

A proper receptacle being thus prepared for the abode of animal life, the species of beings alone able to tenant the element which invested the terrestrial mass, may reasonably be supposed to have been first created. Marine animals, therefore, in all their infinite

* Steno de Solido intra Solidum, p. 63.

variety, took possession of the chaotic deep, and these being naturally prolific, and having an unlimited field for their support, our naturalist conceives, might probably increase and multiply so exceedingly in a short space of time, as to replenish the ocean from pole to pole. The ocean thus plentifully stocked with inhabitants before the dry land appeared, many of these animals became daily enveloped and buried in the sand and mud, by the daily action of the tides. The heavier the bodies, the deeper would they be interred in their earthly envelope, and the less active the marine species entombed, the less able would they be to extricate themselves from such interments. But since all the species of shell fish are much less active than the finny kinds, the former were probably thus entombed in much greater numbers, as, indeed, they are found in the petrified masses than the latter. The 1656 years, or if we compute by the Septuagint chronology and Josephus, the 2242 years that elapsed before the flood, added to the sum of nearly a thousand years after it, would in all reasonable conjecture, afford a sufficient period for the consolidation of the rocks, and the crystallization of the marine exuviæ incorporated in them. However all calculations of the age of the world, founded upon this basis, must of necessity be in the highest degree fallacious, since it is well known to the naturalist, that the slow or rapid progress of any body towards petrifaction, greatly depends upon the nature of the substance, bituminous or saline, in which it is imbedded. Several springs and lakes possess, in a high degree, this quality of petrifying, that is to say, of incrustating with the stony particles, floating in the fluid, the wood or other matter immerged in them, for this in most cases is all that is done. The waters of Lough Neagh in Ireland are known to possess, in a remarkable degree, this petrescent quality, owing, it is thought, to some mineral springs in its neighbourhood; and I myself, when in that part of Ireland, have seen part of a petrified tree dug up on its banks, on

which were visibly impressed the marks of the hatchet. The time therefore, in which petrifaction takes place, entirely depends on the nature of the matter in which the subject happens to be deposited. In particular situations the process is comparatively rapid, but in others it has been proved, by a recent experiment, that wood may lie 1600 years in the earth, without having made any great advance towards petrifaction. The experiment to which I allude, is that mentioned in Buffon, of the late emperor of Germany, who wished that some " certain method of ascertaining the age of petrifactions might be discovered. He, therefore, ordered his ambassador at Constantinople, to ask permission to take up, from the Danube, one of the piles of Trajan's bridge, which is some miles below Belgrade. This permission being granted, one of the piles was accordingly drawn up, which, it was imagined, would certainly have been petrified by the water: but after such a lapse of time, it was discovered that the process of petrifaction had made but very little progress; for though this pile had remained in the Danube above 1600 years, the petrifaction had not proceeded above three quarters of an inch, nor quite so much. The rest of the wood was very little altered, and had only begun to be calcined. " If a just conclusion, " says our naturalist, " with regard to all other petrifactions could be drawn from this single fact " (which it certainly cannot), " nature would require 50,000 years to change trees, of the size of those found in various places, into stone."*

Having said thus much concerning the abrupt surface and disordered strata of the earth, the reader may not be displeased if we penetrate somewhat lower, and extend a transient survey downwards over its central regions. The hypothesis, that the centre of the globe, which we inhabit, consists either of an immense reservoir of water, or a sphere of fire, are alike disapproved of by

* Vol. IX. p. 239.

the enlightened philosophers of the present day: the deep abyss of Moses some divines, therefore, attempt otherwise to explain, and think it may be explained without any violation of that historian's veracity. In truth, what the sacred penman particularly meant by that expression, otherwise than the vast reservoirs of water formed by subterraneous lakes and rivers, is only known to him who is acquainted with the contents of the earth, from its surface down to its profoundest centre. Mr. Whitehurst thinks the account drawn up in a popular way, and *in accommodation to the geographical notions of the ancients, which supposed such an abyss*; but we ought cautiously to admit such intrepretations of Holy Writ, and especially of an author whose hypothesis is in general conformable to the deductions of philosophy. Of a solid orb 8000 miles in thickness, it is impossible to form a conjecture of what materials the centre is composed; since human exertion and curiosity have not as yet penetrated above an eight thousandth part of that depth. Still, however, when we consider that water, according to the old established dogma of the Thalesian school, is the first vital principle of all things, probability, at least, is on the side of the Mosaic representation: and the philosophers of India are still of opinion, that the centre of the globe consists of a fluid. Indeed, that the earth is surrounded by and floats on the waters, I have proved to have been a doctrine of very ancient date in the East, and I have presented the reader, from Mr. Bryant, with a specimen of what the Asiatics thought concerning the unfathomable profundity of the great abyss. The great, I had almost said the only objection urged against Mr. Whitehurst's and other similar hypotheses, is the presumed difficulty of preserving the ark, amidst this boundless convulsion of nature. The total immersion in the abyss of immense tracts of land, the disruption of a great part of the solid superfices of the globe, giving entrance into its internal strata to the inundating water, must have occasioned such

an *infinite* commotion in the deep, that no vessel could securely remain on its surface, but must be in danger of being momentarily absorbed in the vortex of its agitated waves. How, therefore, was it possible, for so slender a bark to be preserved amidst the universal wreck. It will be remembered, however, that I prefaced these remarks with observing, that naturalists in vain endeavour, by the powers of human reason, which as God's noblest gift to man, it is doubtless allowable in this investigation, without impious presumption, to call to our aid, to solve *all* the phænomena of this stupendous event; for that if there are some circumstances which can be explained by human science and ingenuity, there are others again, that wholly elude their united research. While Mr. Whitehurst, as a philosopher and a chemist, points out to us the secondary means, which the Deity did, or might make use of, to bring about this awful catastrophe, he by no means excludes the more immediate and miraculous exertion of his power, in the protection and preservation of the chosen family in the ark, who certainly, during this conflict of the elements, could not have been saved, without that miraculous interference.

It may with the greatest reason be conceived, that other traditions and customs, instituted in memory of this grand event, were faithfully preserved in Chaldea, Syria, and all those Eastern countries, in which, as the oldest empires, we expect to find the most ancient monuments of the human race. As we advance in our research, we shall find this to be the fact, though frequently obscured by Pagan fables. Berosus, the Chaldean historian, concerning whom so much has previously occurred, again demands our attention, and on this, as well as former subjects, we observe in his page a wonderful coincidence of relation with that of the Hebrew historian. His account of Oannes, the fish god, has been already noticed, as well as its analogy to the Matsya Avatar of India. The last king of the ante-diluvian dynasty, recorded by that

historian, it has already been stated was Xisuthrus, and of that sovereign, the following particulars are recorded in the Chaldaic history.

When Otiartes was dead, he was succeeded by his son Xisuthrus, in whose reign the great deluge came upon the earth; the history of which in our records is thus related. Saturn (in other words the deity), appeared to Xisuthrus in a dream, and told him that on the fifteenth day of the month Dæsius, the second Chaldean month (in this respect differing from the account of Moses, which states it to be on the seventeenth of the second month) mankind should be destroyed by a flood. He therefore, commanded Xisuthrus to *write down* a history of the origin, intermediate state, and end, of all ante-diluvian things, and to bury the record under ground in Sipparæ, the city of the sun. He then ordered him to build a ship, and go into it with his friends and kindred, to furnish the vessel with provisions, and to take into it fowls and four-footed beasts; and when he had thus provided every thing necessary, if he was asked whither he intended to sail, he should say, to the gods, to pray for happiness to mankind. Xisuthrus did not disobey the divine command, but built a vessel,* in length five furlongs, and in breadth two furlongs; and having got all things ready, he put on board his wife, children, and friends. After the flood was past the height, and began to abate, Xisuthrus let out certain birds,† which finding no food, nor a place to rest in, returned again to the ship. Xisuthrus, after some days, let the birds out again; but they came a second time

* This account shows that the ark of Noah was built in Chaldea, not far from Babylon, where Xisuthrus lived; and this most probably was the place. See Bochart, Phaleg. lib. 1, c. 4.

† Plutarch relates, from ancient mythologists, that Deucalion, in the time of the flood, let out a dove from the ark, to give him notice of the weather, which came in again when the rain continued, but flew away when it was fair. De Solert. Animal. p 968.

back to the ship, having their feet daubed with mud: (Moses says the dove came back with an olive leaf in her mouth,) but being let out the third time, they returned no more to the ship, from which Xisuthrus understood that dry land appeared. Then he opened the side of the ship, and seeing that it rested on a certain mountain, he went out of it with his wife, and daughter, and pilot; and having worshipped the earth, and *raised an altar*, and sacrificed to the gods, he, and they who were with him, disappeared. But they who staid in the ship, finding that Xisuthrus and those who accompanied him, did not return, went out to seek him, calling him aloud by his name. Xisuthrus, however, was seen no more by them; but his voice was heard to come out of the air, commanding them, as their duty was, to be religious: and informing them that he himself, on account of his piety, was gone from them to dwell with the gods; and that his wife, daughter, and pilot, were partakers of the same honour. He also told them, that they should go again to Babylon, and that they should take the writings from Sipparæ, and communicate them to mankind: and he added, that the mountain on which they then were, was in the country of Armenia. When they had heard this, they offered *sacrifice to the gods*, and unanimously went to Babylon. When they came thither, they dug up the writings at Sipparæ, built many cities, raised temples, and rebuilt Babylon.*

To trouble the reader with any particular observations on the exact resemblance of this Chaldean with the Hebraic account of the Deluge, or minutely to dwell upon the analogy of character existing between Xisuthrus and Noah, would be an insult to his discernment. One circumstance is, however, very remarkable, that, whereas Berosus relates, that Xisuthrus was never seen after he went out of the ark, and had offered sacrifice to God for his preservation; so Moses, having informed us of what happened

* Syncelli Chronolog. p. 38.

soon after the flood was over, records not what became of Noah, but only says he lived after the flood 350 years. What he reports too, relative to the vessel of Xisuthrus, ought by no means to be omitted, that it was reported that fragments of that vessel still remained in Armenia, on the Gordyæn mountains, and that it was the custom of travellers to visit those mountains, and bring away the bitumen, which they scrape off, and use by way of charm against misfortune and disease.

The numerous contests which are recorded in Jamblichus, Plutarch, and other writers, to have taken place between Osiris and his mortal enemy Typhon, whose name we have remarked to be derived from *al-tuphon*, deluge; the account of the final success of the latter in the most important of those contests, and of his having fabricated an ark of curious workmanship, in which he shut up the former; the immemorial traditions of numerous inundations alluded to in the speech of the Egyptian priest to Solon; and the assertion, noticed before, that the mountains of the Thebais consisted of an immense mass of shells, deposited by the waters of the ocean, whence, in fact, in ancient Sanscrit histories, Egypt itself, according to Mr. Wilford, is denominated CHANKA-DWEEPA, or the continent of shells; these circumstances united, prove, as effectually as any direct historical records, if any had remained from the wreck of time, could prove, the general and uniform belief of the Egyptians in the truth of an universal Deluge. Mr. Bryant, indeed, is of opinion, that the mysterious Egyptian festival of Osiris and Isis, at the autumnal equinox, was nothing more than a commemoration of the Deluge, which took place at that period of the year, the very period at which Typhon slew Osiris.

" Those mysteries," he observes, " for the most part, consisted of a melancholy process; and were celebrated by night, with torches, in commemoration of the state of darkness in which the

great patriarch and his family had been involved."* In another place he takes notice, that "there was scarcely any circumstance, however minute, mentioned by Moses concerning the ark of NOAH, but what was recorded in the family of Ham. It is said of the patriarch, that he was a man of the earth, and skilled in planting and sowing, and every species of agriculture. When he constructed the ark, he made a window in it; through which, after a season, he looked forth and saw the ruins of the former world. He made also a DOOR in the ark; which was a circumstance continually commemorated by the Gentile writers. The entrance, through it, they esteemed a passage to death and darkness; but the egress from it was represented as a return to life. And, as the residence in the ark was an intermediate state between a lost world and a world renewed, this was constantly alluded to in their symbolical representations." † The reader will observe that the ingenious analyst, throughout his instructive work, supposes Noah to be the genuine Osiris. He informs us, that, as the principal rites in Egypt were confessedly for a person lost, and consigned for a time to darkness, but who, after much bewailing and anxious search, was at length found, and supposed to be restored to life; no allusion could possibly point more directly than this to the previous disappearance of the patriarch, to the perils and gloom with which he might well be supposed to be surrounded in the ark, and his consequent emerging and final restoration to light and safety. He observes, that the emphatical expression of the μυςης, when purified, "I have escaped a sad calamity, and my lot is greatly mended;" and at the feast of Isis, the exulting exclamation, Ευρηκαμεν, Συγχαιρομεν! *We have found the lost* OSIRIS, *let us rejoice together!* have also a decided reference to the same event; that among many other circumstances corroborative of his position, not the least convincing is the very ceremony

* See Bryant's Analysis, vol. II. p. 331, 332, 333. † Ibid, p. 237.

adopted, during the efforts of the priests to find the missing *object* of their research, that of a number of their body going down by night to the sea shore, bearing a sacred scyphus, in which was a golden vessel, in the form of a *ship* or *boat*, and into which they poured some of the water of the river; that this being performed, the shout of tumultuous joy abovementioned broke forth from the crowd, and that then OSIRIS was supposed to be found. He winds up the whole of his argument, by proving from Plutarch, that this ceremony of *inclosing Osiris in his tomb, or ark*, in memory of his *having been in his lifetime thus concealed, to* avoid the *fury of* Typhon, their known symbol of the ocean, took place precisely upon the seventeenth day of the second month, after the autumnal equinox; that is, in fact, upon the very day on which the TRUE OSIRIS entered the ark, which, in Scripture, is said to have taken place in the six hundredth year of Noah's life, ON THE SECOND MONTH, AND ON THE SEVENTEENTH DAY OF THAT MONTH.

The Egyptians too, were not less strenuous in their observations of another festival founded upon ancient immemorial tradition; for, according to Porphyry, at the summer solstice, it was their custom to mark their houses, flocks, and trees, with a red compound, and go clothed in scarlet, in commemoration of the grand conflagration. At this festival too, that celebrated Pyrrhic, or fire dance, afterwards revived in Greece, was performed, of which the reader may find an account in the fifth volume of Indian Antiquities.

The Arabians, we have already observed from Abulfaragius, had the same traditional accounts current among them, of the alternate destruction of the earth by water and fire, imagining that immediately after those dreadful catastrophes had taken place, there would be a regeneration of all things; and though some of the modern Persians, according to Dr. Hyde, like some of the modern

Indians, affect to deny that ever a deluge took place in their country, yet he confesses that the orthodox among them acknowledge this general destruction by water, in which the whole human race perished, except a few peculiarly favoured of Heaven, and that it was sent by the Deity as a punishment for the multiplied enormities of mankind, one of whom, by name Malcus, is recorded in their annals to have been a monster of vice and profaneness.*

The vanity of the Greeks in appropriating to themselves, and applying to their own fabulous history, many distinguished events recorded in the annals of Asiatic nations, proves, in one respect, a fortunate circumstance for posterity; since it has been the cause of preserving for them the memory of many important historical incidents, which are to be traced through all the obscurity of the allegories that envelope them. Lucian, who resided among the Greeks of Alexandria, and who also wrote in the Greek language, was yet himself a native of Syria, relates that in the age of the *Scythian* Deucalion, by which epithet he plainly means to distinguish him from the Greek Deucalion of a later period, as the flood in question must doubtless be understood of a different deluge from that partial one which overwhelmed Thessaly, all mankind perished in a general inundation of the globe. Speaking of the temple of Hierapolis in Syria, he observes :—" many persons assert that this temple was erected by Deucalion the Scythian ; that Deucalion in whose days the grand inundation of waters took place. I have heard in Greece what the Grecians say concerning this Deucalion. The story they relate is as follows: the present race of men is not the first, for they totally perished ; but is of a second generation, which, being descended from Deucalion, increased to a great multitude. Now, of the former race of men they relate this story: they were insolent, and addicted to unjust actions ; for they

* Hyde Relig. Vet. Pers. cap. 10. p. 257.

neither kept their oaths, nor were hospitable to strangers, nor gave ear to suppliants; for which reason this great calamity befel them: on a sudden the earth poured forth a vast quantity of water, great showers fell, the rivers overflowed, and the sea rose to a prodigious height; so that *all things became water*, and all men were destroyed: only Deucalion was left to a second generation, on account of his prudence and piety. He was saved in this manner: he went into a large ark or chest which he had fabricated, together with his sons and their wives; and when he was in, there entered swine, and horses, and lions, and serpents, and all other creatures which live on earth by pairs. He received them all and they did him no hurt; for the gods created a great friendship among them; so that they sailed all in one chest while the waters prevailed. These things the Greeks relate of Deucalion. But, as to what happened after this, there is an ancient tradition among those of Hierapolis, which deserves admiration; viz. that in their country a great chasm opened, and received all the water; whereupon Deucalion *erected altars*, and built the temple of Juno over the chasm. This chasm I have seen, and it is a very small one, under the temple: whether it was formerly greater, and since lessened, I cannot tell; but that which I have seen is not large. In commemoration of this history, they practice this ceremonial rite: twice in every year water is brought from the sea to the temple, and not by the priests only, but by the inhabitants of all Syria and Arabia; many come from beyond Euphrates to the sea, and all carry water, which they first pour out in the temple, and afterwards it sinks into the chasm; which though it be small, receives abundance of water. And when they do this, they say Deucalion instituted the ceremony in that temple, as a memorial of the calamity, and of his deliverance from it."*

The Syrians also, according to the same author, venerated the

* Lucian de Dea Syria, p. 882.

dove, which was the sacred arkite bird, and ranked it among the most hallowed hieroglyphics of their temples. There is another singular rite instituted, I conceive, in memory of this grand catastrophe, recorded by Lucian to have been celebrated by the ancient Syrians, I mean the submersion during a grand annual feast of all their idols, beneath the water of a certain consecrated lake, where the sacred fishes were preserved, two hundred fathoms in depth; and the ceremony, says Lucian, was thence denominated *the descent into the lake.* This ceremony bears too near a resemblance to the annual custom before adverted to, of committing Osiris, in Egypt, to the Nile, and Durga, in India, to the Ganges, to allow of any hesitation of pronouncing in what country it originated, and to what primeval event, and venerable personage, it pointed.

It is apparent from this account of Lucian, that there was more than one Deucalion, and more than one deluge, to which his name was applied. The Greeks having heard, by tradition, of a great flood that happened under Deucalion, confounded with it the lesser flood that ravaged Thessaly. They acknowledge, indeed, that even the second Deucalion was not a native of Greece, but came to that country from Scythia, whither his father Prometheus, the Titan, had been banished. His name proves him to have been of foreign extract, if ever such a person did, in reality, exist in human shape, which may very reasonably be doubted. It evidently appears to me, to be formed of two Sanscrit words, Deva and Cali, with the Greek termination *on* affixed Now by Cali, we have before observed, the Indians mean TIME personified, and the Deluge of Deucalion is, therefore, Veeshnu's flood, at the end of the third yug or grand period of time, the tradition of which had, by some unknown channel, reached Greece, and was as usual wrought into their fabulous history. Of Time the Indians have formed a terrible divinity, whom they sometimes call MAHA CALI,

or great time; and sometimes SEEVA, the destroyer of all things Hence the epithet of Deu, or Deva, is constantly applied to the deified objects of their multifarious idolatry.

There is the greatest reason to suppose, that the deluge, said to have overflowed all Attica and Bœtia, in the reign of Ogyges, is only a corrupted tradition of the flood of Noah, since a veil of impenetrable obscurity shades both Ogyges himself, and the period in which that deluge happened. According to Petavius, and the most esteemed writers on Grecian chronology, before Sir Isaac Newton attempted to shake its antiquity, it took place in the year 1796 before the Christian æra; a passage in Censorinus fixes that event 1200 years before the Trojan war, a date exceeding that of the Noachic flood. In truth, so lost in the gulf of time was all remembrance of it, that whensoever the ancient Greeks wished to impress the mind with an idea of the unfathomable antiquity of any object, or event, it was usual with them to denominate it *Ogygian*. In general their writers, consider Ogyges, not as a native of Greece, but of foreign original, a circumstance which greatly corroborates the conjecture of Sir William Jones on the Tartars, in the Asiatic Researches, that he was no other than OGUZ, universally allowed, in all the genuine traditional histories of the Tartars, to have been the first monarch of Scythia, whose reign, we learn from Abulgazi,* they fixed to the æra of 4000 years before Jengis Khan, which ascends 500 years beyond the flood; but which, I am of opinion, may be referred to the period of the dispersion after the flood, since the name appears to be only a corruption of the Arabian terms Yujuj and Majuj, by which they mean the Japhetic race that first peopled the vast plains of Scythia, and by colonies migrating thence, Greece, and the isles of the Gentiles.

After exhibiting to the reader the above numerous and decisive

* See the Preface to his History of the Tartars, p. 8.

attestations to the truth of the Deluge, the result of Oriental traditions, there is no occasion to prolong this already very extended chapter, by additional testimonies, which might easily be brought from America, Europe, and other remote regions of the earth. Our proper field of investigation is Asia, and both its natural and civil history, as hitherto adduced, confirm the momentous fact. It remains that we advance to the hallowed ground of India, whither *it is possible* Xisuthrus, otherwise Noah, retired when he landed out of the ark, and told the companions of his voyage, that he, and his wife, and daughter, and pilot, were going to the land of the gods, or devas; and where possibly may have been treasured fragments of those genuine Sanscrit documents, so happily discovered by the indefatigable exertions of Mr. Wilkins, and so faithfully translated by HIM whom these pages must equally applaud and lament.

THE HISTORY OF THE THREE FIRST AVATARS.

THE MATSYA AVATAR, OR FIRST INCARNATION OF VEESHNU IN THE FORM OF A FISH.

We come, at length, to the consideration of the ten DISTINGUISHED AVATARS of India; for the inferior Avatars that have appeared in various ages are innumerable. In the history of them is justly supposed to be *involved a considerable portion of the ancient history of the country*; and our account of these Avatars, therefore, shall be taken from the only authentic sources yet accessible, the productions of Mr. Wilkins and Sir William Jones.

The Sanscrit term AVATAR signifies *a descent*, and is, in a peculiar manner, used to denote the nine past descents of Veeshnu, the supreme being, from the abodes of bliss and glory, to sojourn with man, to effect the wise and benevolent purposes of providence, or to display its justice in the punishment of guilt. The occasion of those descents, is indeed declared by Veeshnu himself, in the form of Creeshna, who, in the Geeta, thus addresses Arjun. "Both I and thou have passed many births, mine are known unto me; but thou knowest not of thine. Although I am not in my nature subject to birth or decay, and am the lord of all created beings, yet having command over my own nature, I am *made evident* by my own power; and *as often as there is a decline of virtue, and an insurrection of vice and injustice in the world,* I make myself evident; and thus I appear, from age to age, for the preservation of the just, the destruction of the wicked, and the establishment of virtue."* The first Avatar of Veeshnu, was under the form of a human being issuing from the body of a fish, and it is thence called MATSYA. A very particular account of this incarnation, is given in the Asiatic Researches by the President,

* Bhagvat Geeta, p. 52.

in a literal translation from the Bhagvat; a book, the title of which is one of the names of Creeshna, and contains the detailed history of the great Indian preserver. The beginning section of that purana thus confirms the tenor of the passage, above quoted, from the Geeta. "Desiring the preservation of herds, and of Brahmans, of genii, and of virtuous men, of the Vedas, of law, and of precious things, the lord of the universe assumes many bodily shapes; but though he pervades, like the air, a variety of beings, yet he is himself unvaried, since he has no quality subject to change."* The particular cause of this first, or Matsya Avatar, is then described as follows: —"at the close of the last Calpa (which word has been explained in a former page) there was a general destruction occasioned by the sleep of Brahma; whence his creatures in different worlds were *drowned in a vast ocean*. Brahma, being inclined to slumber, desiring repose after a lapse of ages, the stong dæmon Hayagriva came near him, and stole the Vedas, which had flowed from his lips." This allegorical slumber of Brahma, and the theft of the sacred books, mean only, in simpler language, that *the human race was become corrupt*, and therefore deserted by their Creator. "When Heri, the preserver of the universe, discovered this deed of the prince of Danavas, he took the shape of a minute fish, called Saphari. A holy king, named Satyaurata, then reigned, a servant of the spirit *which moved on the waves*, and so devout that *water* was his only sustenance. He was the Child of the Sun, and, in the present Calpa, is invested by Narayen with the office of Menu." The devout character, and elevated descent of this king, is perfectly in unison with that of the patriarch Noah, the servant of the true God, and prophet of the old world. But to proceed: "As this pious king was making a libation in the river, the preserving power, under the form of the fish Saphari, appeared to him, at first under a very minute

* Asiatic Researches, vol. I. p. 230.

form, but gradually assuming a larger bulk, at length became a fish of immense magnitude. Having put his virtue and benevolence to repeated trials, the deity, from this miraculous expansion of himself, became visible to his astonished view, and Satyaurata addresses him in this sublime prayer. "Never before have I seen or heard of so prodigious an inhabitant of the waters! surely thou art Bhagavat who appearest before me; the great Heri, whose dwelling was on the waves, and who now, in compassion to thy servant, bearest the *form of the natives of the deep!* Salutation and praise be to thee, O thou first male! the lord of creation, of preservation, and of destruction! thou art the highest object, O Supreme ruler, of us thy adorers who piously seek thee. All thy delusive descents in this world give existence to various beings; yet I am anxious to know for what cause that shape has been assumed by thee. Let me not, O lotos-eyed, approach in vain the feet of a deity, whose perfect benevolence has been extended to all!" The lord of the universe, out of pure benevolence and compassion to the pious monarch, "intending to preserve him from the sea of destruction, caused by the depravity of the age," returned him the following answer. "In seven days from the present time, O thou tamer of enemies, the three worlds will be plunged in an *ocean of death;* but in the midst of the destroying waves, a large vessel, sent by me for thy use, shall stand before thee. Then shalt thou take all medicinal herbs, all the variety of seeds, and accompanied by *seven saints*, encircled by pairs of all brute animals, thou shalt enter the spacious ark, and continue in it, secure from the flood, on one immense ocean, without light, except the radiance of thy holy companions. When the ship shall be agitated by an impetuous wind, thou shalt fasten it with a large sea serpent on my horn; for I will be near thee: drawing the vessel with thee and thy attendants, I will remain on the ocean, O chief of men, until a day of Brahma (a year) shall be completely ended." He

spake, and vanished from his sight. Satyaurata humbly and devoutly waited the awful event, and while he was performing grateful services to Heaven, " the sea, overwhelming its shores, deluged the *whole earth:* and it was soon perceived to be augmented *by showers from immense clouds.* He still meditating on the command of Bhagvat, saw the vessel advancing, and entered it with the chiefs of Brahmins, having carried into it the medicinal plants, and conformed to the directions of Heri. Alarmed at the violence of the waves, and the tossing of the vessel, the pious king invoked the assistance of the preserving power, " when the god appeared again distinctly on the vast ocean, in the form of a fish, blazing like gold, extending a million of leagues, with one stupendous horn; on which the king, as he had before been commanded by Heri, tied the ship with a cable made of a vast serpent (the usual symbol introduced into all the Indian poems,) and, happy in his preservation, stood praising the destroyer of Madhu. When the monarch had finished his hymn, the primeval male Bhagavat, who watched for his safety on the great expanse of water, spoke aloud to his own divine essence, pronouncing a sacred purana; the substance of which was an infinite mystery, to be concealed within the breast of Satyaurata; who, sitting in the vessel with his saints, heard the principle of the soul, the Eternal Being, proclaimed by the preserving power. Then Heri rising, together with Brahma, from the destructive deluge, which was abated, slew the dæmon Hayagriva, and recovered the sacred books. Satyaurata instructed in all divine and human knowledge, was appointed in the present Calpa, by the favour of Veeshnu, the seventh Menu, surnamed Vaivaswata; but the appearance of a horned fish to the religious monarch was *Maya*, or delusion."*

This epitome of the first Indian history now extant, appeared to Sir William Jones not only very curious, but very important;

* Asiatic Researches, vol. I. p. 234.

since the story, though dressed up in the form of an allegory, proves a primeval tradition in India of the *universal Deluge*, described by Moses, and consequently fixes the precise period of the commencement of the genuine Hindoo chronology.

After exhibiting to the reader this genuine Sanscrit account of the destruction of all things living, except those which remained with Satyaurata in the ark, I shall present to his view the circumstances most striking and parallel in the Mosaic account of the same grand catastrophe, whence the similarity of the leading incidents in both will not fail to make a more forcible impression upon his mind. "*And God saw that the wickedness of man was great upon the earth. The earth also was corrupt before God, and the earth was filled with violence. And God said unto Noah, the end of all flesh is come before me: for the earth is filled with violence through them; and behold I will destroy them with the earth. Make thee an ark of Gopher wood; rooms shalt thou make in the ark, and shall pitch it within and without with pitch. And behold I, even I, do bring a flood of waters upon the earth; but with thee will I establish my covenant: and thou shalt come into the ark, thou and thy sons, and thy wife,* and thy sons wives with thee. And of every living thing of all flesh, two of every sort shalt thou bring into the ark, to keep them alive with thee: they shall be male and female. Of fowls after their kind, and of cattle after their kind, of every creeping thing of the earth after his kind; two of every sort shall come unto thee. And the Lord said unto Noah, Come thou, and all thy house into the ark;* FOR THEE HAVE I SEEN RIGHTEOUS *before me in this generation. For yet seven days, and I will cause it to rain upon the earth forty days and forty nights. And it came to pass after seven days, that the waters of the flood were upon the earth. The same day were all the fountains of the great deep broken up, and the windows of heaven were opened; and the waters increased exceedingly upon the earth: and all the*

* "All the Pandets agree," says Sir William, "that the wife of Satyaurata, though not named, must be understood to have been saved with him."

*high hills that were under the whole heaven were covered. All in whose nostrils was the breath of life, of all that were in the dry land died. And Noah only remained alive, and they that were with him in the ark. And the waters prevailed upon the earth an hundred and fifty days. And God remembered Noah."**

The very similar and striking circumstances occurring in these two descriptions, such as the cause assigned for the Deluge, the enormous and continued impiety of the ante-diluvian race; the Deity selecting one righteous family, consisting of *eight* persons, and that for their superior holiness; the brute animals preserved, ascending the ark *in pairs;* the prediction that in *seven days* the awful event should take place; and the extended period of the inundation, are too remarkable to be otherwise accounted for than by supposing that the more pure and sublime relation unincumbered by the usual allegories and fabulous mythology of the East was inspired by the Divine Author of the Hebrew code of theology; and that the less pure was delivered traditionally down from that branch of the Noachidæ which settled in India, and survived the destruction of the world, commemorated in that ancient record.

So many and so voluminous have been the comments on this part of the Mosaic history, there is no necessity for our entering, in an historical volume, into minute discussions relative to the magnitude of the ark, which depended upon the sort of cubit supposed to be made use of; whether admitted to have been the *geometrical cubit* containing six ordinary cubits, or what is called the *sacred cubit,* which is larger by a hand's-breadth than the common cubit; nor is it necessary for us to examine, at any length, the objection raised on the score of the possibility of collecting together and sustaining, during so long a period, in one vessel, the supposed variety of living creatures with which the earth and aerial regions are stocked; for the species of marine,

* Genesis, chap. 7.

and even amphibious animals, may, without violating reason or religion, be considered as preserved in their own particular element. It may, however, be useful to remark, first, that there was no necessity for any active personal exertion either on the part of Noah, or as the Jews suppose, of commissioned angels, to compel the animals from the various quarters of the globe to assemble in Chaldea and enter the ark, for the climate of the ante-diluvian world might, according to a former observation, be so temperate and serene, and the constitution of animal nature in general so different from what it is at present known to be, as to allow of the residence in that part of Asia, of the quadrupeds, birds, and serpentine race, which now are only to be found only in America, and within the limits or neighbourhood of the torrid and frozen zones; and it should be remembered, that in Genesis, vi. ver. 20. when commanded to prepare the cypress bark for their reception, that Noah is expressly told by the Almighty, *two of every sort* SHALL COME *unto thee;* which of itself utterly overthrows the objection. Secondly, the number of species of animals, as has been clearly proved by one of the most esteemed writers on the subject, which on a superficial view may seem to be almost infinite, on more accurate discrimination, when such as live in water, such as proceed from a mixture of different species, and such as change their colour, shape, and size, by changing their climate, and thence, in different countries, seem to be of different species, when in fact, they are not, excepted, is found to be comparatively moderate; and thus the whole body might conveniently be stowed, together with their provender, in an ark of the allowed dimensions.

From these two preceding and indisputably authentic Asiatic accounts of the same event, the reader must be convinced of the very gross error into which the otherwise respectable Stillingfleet and his followers have fallen, in asserting that the Deluge was only a partial calamity; for whether we incline to adopt, as the

original record, the Mosaic or Indian narration of that event, nothing can be more plain, than that *all flesh was destroyed from off the earth,* except those that were with Noah in the ark, and Satyaurata in the bark fabricated by the command of Veeshnu. It is the extreme of absurdity also, to suppose, with Woodward, that the solid matter of which the earth is composed, in the course of the short period of a year, in which the waters covered the earth, could possibly be reduced to a soft pulp, or that its metallic and mineral substances could be dissolved to their original atoms. The olive branch which the dove brought back with her into the ark, is a proof that its surface, though in some parts dreadfully shattered and convulsed, was yet in others scarcely disturbed, and only suffered the devastation naturally attendant upon an extensive inundation. In farther confutation of Dr. Woodward's assertion, that the whole terrestrial mass was dissolved at the Deluge, it has been judiciously observed by Buffon himself, that to effect this a second miracle would be necessary, in order to invest the watery element with the power of an universal dissolvent; indeed, in that case, and if water were, in fact, an universal menstruum, how is it possible for shells themselves to have been preserved in the entire state in which we now find them?* Moses too, it should be observed, only asserts that all the high mountains were *covered,* he does not say *dissolved;* if the latter had been the case, rapid indeed must have been the process of the crystallization of the renovated mountains of the globe, since so early as the seventh month, after the commencement of the deluge, we are informed the ark rested on those of Ararat.

With respect to the remarkable number of *eight* persons only being thus miraculously preserved from the general destruction, it would be unjust to omit the following acute observation of Mr. Bryant upon the subject. "The ark," says that writer, "ac-

* Buffon's Nat. Hist. vol. 1. p. 229.

cording to the traditions of the Gentile world, was prophetic; and was looked upon as a kind of temple, a place of residence of the Deity, in the compass of eight persons." And might not this very circumstance have given the first idea to the Indians of the grand incarnations of Veeshnu; which in truth, do not properly exceed the number of eight, those of the three Ramas being, in the opinion of Sir William Jones, resolvable into one.

After an attentive consideration of these various circumstances in the history of the first Indian or fish Avatar, we are naturally led to examine the parallel traits in that of the other piscatory deities of Asia; one of the most distinguished of whom, next to the Chaldean Dagon himself, or Oannes, previously considered, is the Syrian Atergatis, a name which the learned Selden * derives from two Phœnician words, Addir Dag, the magnificent fish, and who is doubtless the Derceto, or whalefish of the Greeks. "Ibi," says Pliny, "prodigiosa Atergatis; Græcis autem Derceto dicta videtur.†" This symbolical deity so far differed from the Oannes of Chaldea, that the superior part of the sacred animal was female, having the face and breasts of a woman; whereas Veeshnu and Dagon are male from the waist upwards. Dagon, however, was not only a Chaldean deity, but was adored by the maritime nation of the Phœnicians as their principal divinity, and fishes were sacred to him. The Philistines also held this deity in profound veneration, and it was at his superb temple at Gaza that the God of Judah when his ark was placed there, shewed his supreme power over the false gods of the heathens, by dashing to the ground the mutilated object of their superstition. It was at Gaza too, that the shorn but still athletic Samson, took a severe revenge upon the fish-god, and his votaries, by pulling down upon their heads that sumptuous shrine, whither they had brought him for the purposes of pastime and insult; and ample, indeed, must that shrine have been, since no less than three thousand victims

* Selden's Dea Syria, p. 276. † Plinii Nat. Hist. lib. 16, p. 418.

perished in its ruins. Finally, the Philistines of Ashdod, the Azotus of the Greeks, worshipped this deity in a splendid temple called Beth-Dagon, which was ultimately destroyed by Jonathan, a general of the Maccabees.

I have already observed, that the fish-god of the ancient Egyptian zodiac, (engraved in this volume,) bears an exact resemblance to Veeshnu in that incarnation. The Pisces of the zodiac, must therefore, be ranked among the mythological figures of antiquity, corroborative of that event; and the very curious and remarkable account given by Hyginus, in his Cœlum Poetico-Astronomicum, of the origin of that sign, according to the Syrian mythology, is a wonderful attestation of the justice of the application; for he informs us, that Venus and her son (that is, in other words, Isis and Horus) under the form of fishes, concealed themselves in Syria, to escape the furious pursuit of Typhon, another name for *Deluge:* "Pisce latuit Venus."* Hence it arose that the Syrians abstained from eating fish, since the body of a fish was, for a time, the abode of the Deity; who, as Manilius also informs us, "inseruitque suos squamosis piscibus ignes."† From the foregoing, and a variety of parallel circumstances, I am inclined to think that the Chaldaic Oannes, the Phœnician and Philistian Dagon, and the Pisces of the Syrian and Egyptian zodiac, were the same deity with the Indian Veeshnu in his first incarnation, and they all decidedly point to him, who, for a whole year, tenanted the watery deep. Diodorus Siculus plainly alludes to this Syrian divinity when he informs us, that "at Ascalon, a city of Syria, was a sacred pool full of fishes, and that near it was the celebrated temple of Dercetus;"‡ while Lucian's account, already detailed, of the grand festival anually celebrated in Syria, and called *the descent into the lake*, can scarcely otherwise be considered than as immediately allusive to the immersion of all living.

* Hyginus, p. 405. 8vo. edit. 1681. † Manilii Astron. l. 4. ‡ Diodorus Siculus, lib

GENERAL OBSERVATIONS OF THE ASTRONOMICAL ALLUSION OF THE INDIAN AVATARS, WITH PARTICULAR STRICTURES ON THAT OF THE MATSYA.

The path of the SUN, the great preserving power of antiquity, and the brightest symbol of the Deity, among the constellations; but in particular his passage through the *signs of the zodiac*; and the situation at various *intervals, during the revolution of past ages of the solstitial and equinoctial* colures, are ever to be considered in all ancient retrospective investigation of Oriental history. To an astronomical origin are, doubtless, to be traced the appellatives which distinguish the greater Avatars of India, and the intelligence plainly intended to be conveyed is of a chronological kind; those appellatives suggesting that the particular Avatar in question took place when the sun was passing through such a constellation in the heavens, or at the moment when the solstitial and equinoctial points were in such positions as are shadowed out by the sidereal titles which they respectively bear. That the Hindoos did, with minute accuracy, and almost religious scrupulosity, attend to the relative situation of the heavenly bodies, and refer to them in their chronological details, when they wished to note the exact epoch of great national events, is evident from their having fixed, with such precision, the period of the world's commencement, when there was a conjunction of all the planets in the beginning of Mesha, or the Ram; and that of the Cali yug, or present age, to the 18th of February, in the year 3012 before the Christian æra, when there happened another planetary conjunction, besides the remarkable event of an eclipse of the moon. That they continued this vigilant attention to the position of the heavenly phænomena, in every period of their ancient empire, is indisputably apparent from two important actual observations, made at very remote æras, by

two highly celebrated astronomers; the first a MUNI, or holy man, who flourished near three thousand years ago; and the second named Varaha, who lived about the 500th year of the Christian æra.*

From this early attention of the Indian astronômers to the position of the heavenly bodies, during the grand events which the stars were supposed to influence, it is impossible to avoid supposing that the fish of the zodiac was actually alluded to in this incarnation, and information intended, by this fable, to be conveyed to posterity that the Deluge, according to their annals, took place in that season of the year when the sun was in the sign of Mina, or Pisces, though I admit that does not appear from sacred, and other Oriental records, to have been the precise fact. According to the best chronologers, that event took place under an autumnal sign, whereas Pisces is a vernal sign; for the ancient Egyptian year began in September, and consequently the 17th day of the second month, when Noah's flood commenced, must have been the beginning of our November, when the sun was in Scorpio, the old symbolical asterism of Typhon *(deluge)*, the foe of Osiris and inundator of Egypt. The very curious account which we read in Plutarch and other ancient writers, of the gods concealing themselves under the form of different animals to avoid the fury of Typhon, is probably only a corruption of these astronomical traditions of the elder empire of India, whose sons visited Egypt in the earliest ages after the dispersion. Those animals were, doubtless, the symbolical ones which form the zodiacal asterisms, as Jupiter in the Ram, Osiris in the Bull, Pan in the Goat, &c. while Typhon himself seems to have been canonized in the dreary Scorpion. It is possible, as I have before hinted, that all the incarnations of Veeshnu may allude to the power of the sun in its passage through

* See the particular account of these ancient astronomical observations, in Asiatic Researches, vol. II. p. 400.

the several constellations, during the revolution of uncounted ages, which the Hindoos conceive to have elapsed; and as the Syrian Venus was constellated in the Fish, so might the chief deity of India shine forth in the same asterism. In fact, if the reader will cast his eye on the Egyptian zodiac, he will find in the twelfth asterism a figure pourtrayed, exactly resembling that form under which the Veeshnu of India and the Atergatis or Dagon of Chaldea, are respectively designated in those sculptures and paintings, in which are *transmitted down to posterity the mythological* conceptions *of the* Syrians and the Indians. Concerning the occasion of the constellating of the Syrian goddess in Pisces, what we read in Hyginus is not a little remarkable, and is plainly connected with the Egyptian mythology, viz. that Venns took that form to avoid the fury with which she was pursued by the enraged Typhon, and threw herself, with her two sons, Cupid and Adonis, into the river Euphrates; Adonis was lost, but Cupid was preserved, and the surviving mother and son were afterwards exalted to the constellation in the heavens. On this account Ovid affirms that the Syrian nation ever thought it impious to regale upon *fish*:

———Nefas ducunt *genus hoc* imponere mensis,
Nec violant timidi *piscibus* ora Syri.*

Hyginus also observes, that the fish stiled Notius, saved Isis *(nature)* in great extremity; "pro quo beneficio simulachrum piscis, et ejus filiorum, inter astra constituit."† From these circumstances, and the striking analogy that runs through the whole of the relation, it is evident that there exists a connection in the ancient history of those countries, and that astronomy usurps a very considerable portion of all Oriental history whatsoever.

There are also two other remarkable fishes designated on the sphere, and both of them belonging to the number of the forty-

* Ovidii Fast. lib. 2. l. 474.   † Hygini Poeticon Astronomicon, p. 460.

eight old constellations. The first is the Dolphin, concerning which, as an ancient Hindoo asterism under the name of Sisumara, or *sea-hog*, so much has already occurred, when we were discussing the history of the zodiacs; the second is the Cetus, or whale, both of which are situated near the zodiac, and either of these might have been the supposed temporary abode of the solar deity, the symbol of a nobler Numen, shining forth, in the full splendour of benevolence, upon the perishing race of mortals. The Grecian fable of Orion preserved from destruction on the back of the dolphin, is in all probability only a mutilation of the more ancient event of Menu saved by the Matsya; and from this, it is more likely than from any other source, has arisen the very ancient opinion that dolphins have always been very friendly to the human race.

THE VARA AVATAR, OR SECOND INCARNATION OF VEESHNU IN THE FORM OF A BOAR.

We have already remarked the remote date to which, whether true or false, the Mahabbarat lays claim; it is undoubtedly the oldest existing production of an historical kind in India, and may well be supposed to contain many authentic documents immediately referring to the earliest events. We have already, in the Indian Antiquities, from Mr. Chambers, given the account of a great earthquake and convulsion, that shivered to a considerable extent and depth a rocky portion of the Coromandel coast, near the spot on which the ancient city of Mahabalipoor and the pagodas, called the *seven pagodas*, were erected; and intimated that the ruin was completed, according to the traditional records of the Brahmins, by a destructive inundation. We also reported from the same gentleman, citing the Mahabbarat, that a gigantic prince, or dæmon, the ancestor of him who founded

Mahabalipoor, rolled up *the earth* into the form of a shapeless mass, and carried it down to the abyss, whither Veeshnu followed him in the shape of a HOG, killed him with his tusks, and replaced the earth in its original situation. This was considered as plainly alluding to the events of the Vara Avatar, exactly as the reader will find it engraved in the plate of the second incarnation of Veeshnu in this Volume. The destruction of Mahabalipoor likewise, that great city which attempted to vie in grandeur with the cities of the gods, is well deserving notice, for it was effected by a special mandate sent to Indra, the god of the firmament, to let loose his billows and overflow the place, which being annexed to the story, might be a traditional fragment of history, connected with that of a greater deluge. That it actually was so indeed, is rendered exceedingly probable by the subsequent remark of the writer, that the only records of great events and ancient revolutions possessed by the Brahmins, are wrapped up in these allegorical tales.* It is also necessary, however reluctant I may be to crowd these pages with repetition, to bring again before his view the following passage, relative to this Avatar, immediately translated by Mr. Halhed from the Puranas, and supposed by him to relate to the creation, and so it should appear from the general tenor of *that* Purana; but which is more generally considered, by Indian historians, as allusive to the Deluge.

The whole earth, we are there informed, was *covered with water*. Brahma again resumed his posture of contemplation and penance, to obtain the means of raising up the earth; and poured forth the following prayer to the throne of the Almighty in profound humility of soul. "Oh, Bhagavat! since thou broughtest me from nonentity into existence, for a particular purpose, accomplish by thy benevolence *that purpose!*" In this situation, by the power of

* Consult the original account of these ruins by Mr. Chambers, in Asiatic Researches, vol. I. p. 145.

God, there issued from the essence of Brahma, a being shaped like a boar, white, and exceedingly small; this being, in the space of one hour, grew to the size of an elephant of the largest magnitude, and remained in the air. Brahma was astonished on beholding this figure, and discovered by the force of internal penetration, that it could be nothing but the power of the Omnipotent which had assumed a body and become visible. He now felt that *God is all*, and that *all is from him, and all in him*, and said to Mareechee and his sons (attendant genii), a wonderful animal has emanated from my essence; at first of the smallest size, it has in one hour increased to this enormous bulk, and without doubt it is a portion of the Almighty Power. They were engaged in this conversation when that *Vara*, or boar-form, suddenly uttered a sound like the loudest thunder, and the echo reverberated, and shook all the quarters of the universe; but still, under this dreadful awe of heaven, a certain wonderful divine confidence secretly animated the hearts of Brahma, Mareechee, and the other genii, who immediately began praises and thanksgivings. That *Vara* figure hearing the power of the Vedas and Mantras from their mouths, again made a loud noise, and became a dreadful spectacle. Shaking the full-flowing mane which hung down his neck on both sides, and erecting the humid hairs of his body, he proudly displayed his two most exceedingly white tusks; then rolling around his wine-coloured eyes, and erecting his tail, he descended from the region of the air, and plunged head foremost in the water. The whole body of water was convulsed by the motion, and began to rise in waves, while the guardian spirit of the sea, being terrified, began to tremble for his domain, and cry out for quarter and mercy. At this the devotees and reyshees again commenced their praises in honour of Bhagavat, who, by one glance of his eye, illumined the whole world of water. As the power of the Omnipotent had assumed the body of *Vara*, on that account he condescended to use the par-

ticular instinct of that animal, and began to smell about, that he might discover the place where the earth was submerged. At length having divided the water, and arriving at the bottom, he saw the earth lying, a mighty and barren stratum; then he took up the ponderous globe (freed from the water), and raised it high on his tusk:—one would say it was a beautiful lotos blossoming on the tip of his tusk. In a moment, with one leap, coming to the surface by the all-directing power of the Omnipotent Creator, he spread it, like a carpet, on the face of the water, and then vanished from the sight of Brahma."* In this description it will be observed, the animal itself is brought forward as the agent in this Avatar; but in the annexed engraving, that agent is pourtrayed as a human figure, with the head only of a boar, on the tusks of which the earth rests, while his feet tramples on the malignant dæmon, who had rolled up as a scroll, and carried away the earth, vanquished by his superior power. The print, therefore, copied from the pagodas, seems more aptly than the record, to express the true sentiments of the Indians on this subject; but still the idea of its allusion to a new creation, is not without support, on the basis of their known doctrine of the successive destruction of the world by water and fire, and its consequent renovation by Almighty power and benevolence.

THE ASTRONOMICAL EXPLANATION OF THE VARA AVATAR.

In the astronomical survey of this Avatar, one circumstance is exceedingly deserving of remark, that whereas, in the Egyptian mythology, Osiris is said to have been slain by Typhon in the month of Athyr, or November, when the sun was in Scorpio (a proof that Typhon, or the evil genius of Egypt, was intended to be designated by that symbolical asterism) so Adonis (that is the sun again), in the mythology of Syria, is said to have been killed

* Mr. Halhed's Manuscript, now in the British Museum.

by A BOAR; and though we may not be able to pierce to the bottom of this astronomical allegory in India, yet we may rest assured, that a great portion of astronomical history is included in it, from the general analogy subsisting between the mythological details of the two countries. But let us inquire more particularly into the meaning of this ingenious fable of Adonis being killed by an enraged boar. The Syrian month Haziran, in which that event happened, is derived from the Chaldaic root Hazir, or Hazira, signifying *sus, porcus*, a hog, and the sun finishing his course, or apparent annual circle, when Sirius rose heliacally, which in very ancient periods, took place in the same month; that circumstance gave birth to the ingenious allegory of the young and beautiful Adonis being *killed by a boar.* That this is no idle conjecture, may be proved from the ceremonious rites that took place at the great annual festival most pompously celebrated in honour of Adonis, both in Syria and Phœnicia, and which are in truth the counterpart of those of Osiris and Isis in Egypt. These are amply detailed both by Lucian and Macrobius, in the Dea Syria of the former, and the Saturnalia of the latter.* The festival itself lasted eight days, during the first part of which the whole city of Byblos, near which ran the river Adonis, a river that at a certain season of the year is affirmed to have been stained of a red colour, in memory of the slain Adonis, whose wounds, inflicted by the boar, were washed in that stream, was clothed in sable, and plunged in the deepest affliction. In different quarters of the city were placed on biers, images, beautiful, but lifeless, of the youth who had thus perished by the tooth of a relentless savage in the flower of his age. Around these images were assembled crowds of frantic women, who, arrayed in mourning vestments, poured forth the most bitter lamentations, and occasionally sang the most doleful songs, and this first part of the solemnity was called his αφανισμος,

* Lucian de Dea Syria, p. 256; and Macrob. Saturn. p. 180.

or disappearance. These gloomy rites continued for seven days, and during that interval Adonis was supposed to have resided with Proserpine, who was also enamoured of him, in the infernal regions; but on the last, or eighth day of the festival, the universal sorrow was converted into unbounded hilarity; and the most festive, and often the most obscene rites, of the Phallic kind, proclaimed the restoration of Adonis to the realms of life and light: this concluding part of the festival was denominated Ευρεσις, or the discovery. The meaning of all this is *plainly to be found in astronomical science.* The loss of the sun's light, during his visit to the inferior hemisphere in the brumal season, figuratively described as a residence with Proserpine, and so similar to the slumber of Veeshnu during the rainy season, and the return of his gladdening beam in the vernal quarter, are, doubtless, intended to be shadowed out in this Oriental fable.

How widely throughout the East was diffused this custom of lamenting Adonis slain by the boar, or in other words, the sun finishing his apparent annual course in the month Haziran, is evident from the deep and criminal devotion of the idolatrous Jews to this ancient sidereal superstition, so frequently and expressly anathematized in Scripture. It is to this festival in particular that Ezekiel alludes, when in the prophetic vision described in his eighth chapter, so repeatedly cited by me during a former survey of the superstitions of Asia, which are all accurately depicted in the course of it, the inspired sage thus expresses himself: " then he brought me to the door of the gate of the Lord's house, which was towards *the north* (the region of Assyria): and behold, there sate *women weeping for Thammuz!* By Thammuz the commentators universally agree that Adonis is meant, and by the grief of the women the doleful plaints usual at this festival. Now Thammuz is the Hebrew name of their fourth month, that of June, when the sun enters into Cancer, on which account the Jewish astronomers

denominate his entrance into that sign *Tecupha Thammus*, periodus Tammuz; and though this, doubtless, was not the season of the year when the festival of Adonis was *originally* instituted, yet in the alteration which during a long revolution of ages could not fail to have taken place through all the zodiacal asterisms, owing to the precession of the equinoxes, which, it has been before observed, is after the rate of seventy-one years and a half to a degree, the variation as to the period of observing the festival may be easily accounted for. Mr. Costard, who had never heard of this Indian Avatar, confirms all that I have offered on this subject, in the following passage in his short treatise on the Rise of Astronomy, which I beg leave to present verbatim to the reader.

"To signify the sun's continuance six months in the northern signs, and six in the southern, the ancients seem to have feigned that Adonis passed six months in the arms of Venus, and six in the arms of Proserpine. The same sort of astronomical fiction may possibly be carried on in the story of his being killed by a boar. By being killed, perhaps, may be meant nothing more than the loss of his heat, which loss is greatest when he is in Capricorn: instead of which, in the most ancient Egyptian sphere, there might be drawn a boar; the asterisms having been drawn differently among different nations."*

Such was Costard's sagacious observation seventy years ago, which modern discoveries have proved to be just; for though the boar did not form one of the Egyptian zodiacal asterisms, yet it is now known to have been designated on a more ancient zodiac, in the astronomical system of an elder nation, the Hindoos; since, by reverting to the lunar zodiac in a preceding page, the reader will perceive that a BOAR'S HEAD (the head for the animal, as the horns of Aries for the ram) fills the place of the 18th division of the second series of lunar asterisms on the table of the Nac Shattra, or mansions

* Costard on the Rise of Astronomy, in his four Letters to Martin Folkes, Esq. p. 49.

of the moon. It is also deserving the attentive notice of the Indian astronomer, that the whole animal itself is enumerated among those of the Chinese solar zodiac, of which it makes the twelfth asterism, inserted in the authentic volume of Kempfer ; and there is reason to think that the ancient Chinese astronomy is a remnant of the science of the Noachidæ, or, as we have now proved the identity of the race, the first Asiatic descendants of Satyaurata Menu, who migrating early from Armenia, peopled the whole eastern region of Asia.

In the *plate of the Indian or Oriental zodiac*, the reader will observe that Jupiter is engraved performing his tedious revolution, mounted on the back of a boar, which doubtless, has a reference to the boar of the ancient sphere, since the allusion is otherwise incomprehensible ; and whosoever will cast his eye upon the figure f Veeshnu, in the place of the Vara Avatar annexed, and compare it with that of the Canis Anubis, or more properly the Cynocephalus, or dog's head Numen, engraved or painted upon the ancient monuments of Egypt, must be struck with the great resemblance of the design of these symbolical animals, and be convinced that they owe their origin to some very ancient and intimate connection between the historical records and mythological notions of the two nations. The result, therefore, of these astronomical strictures is, that this fragment of very ancient Indian history comprehends, at once, a moral, chronological, and astronomical truth, viz. that the earth was snatched from the grasp of Destruction, shadowed out under the symbol of a gigantic dæmon, and rescued from the waters of the deluge, by the immediate interposition of Providence, when the sun had entered into the ancient, but obsolete, constellation of the boar ; from the waters of that deluge, which commenced when the sun was in the aquatic asterism of Pisces.

THE COURMA AVATAR, OR THIRD INCARNATION OF VEESHNU IN THE FORM OF A TORTOISE, TO SUPPORT THE EARTH AFTER ITS EMERSION FROM THE OCEAN.

Having rather extensively considered this third incarnation of Veeshnu in the Indian Antiquities, the reader will not be surprised at my occasionally adopting, in the course of this description of it, the very words of that narration, since I can select none more expressive of my meaning, or illustrative of the Avatar itself.

There is a volume in the possession of the Society of Antiquaries in London, presented, I believe, by Mr. Hastings, which is entirely upon the subject of the nine incarnations of Veeshnu. Among other delineations, there is one which exhibits a very accurate display of the events of the COURMA AVATAR, or Veeshnu's descent in the form of a tortoise, to support the earth sinking in the ocean, as well as of the curious Indian historical fable of the Soors and Assoors churning that ocean with the mountain Mandar. Around this vast mountain the serpent ASOOKEE is there represented * as twined in dreadful folds, by way of rope, at the head and tail of which those imaginary beings are pulling with all their might, to make the churned deep disgorge the precious things swallowed up in a certain great deluge. The above circumstances are thus related in Mr. Wilkins's translation of the Mahabbarat, and the reader will find it in page 146 of the Geeta. This account, adduced immediately from such respectable authority, as Mr. Wilkins undoubtedly is, will at once serve to gratify curiosity from the fountain head of Indian authentic intelligence, and afford a specimen of the romantic style in which that first and most celebrated Indian history, not yet presented to the public, is written.

* See the engraving annexed, which is in part copied from it.

The Soors, or good genii, being assembled in solemn consultation upon the sparkling summit of the great golden mountain Meru, or Sommeir, asserted, in the Geographical Dissertation, to be situated in the centre of our globe, and to be of the altitude of at least 16000 yojans,* were meditating the discovery of the amreeta, or water of immortality, under which allegory is shadowed out the reanimation of nature after the general desolation made by the deluge. The sea was to be deeply agitated by the impetuous rotation of the *mountain Mandar; but,* as the united bands *of Dewtahs were unable to* remove this *mountain, they went before* Veeshnu, who was sitting with Brahma, and addressed them in these words: "Exert, sovereign beings, your most superior wisdom to remove the mountain Mandar, and employ your utmost power for our good." Veeshnu and Brahma having replied, "It shall be according to your wish:" He, with the lotos eye, directed the king of serpents to appear. Ananta arose, and was instructed in that work by Brahma, and commanded by Narayen to perform it. Then Ananta, by his power, took up that king of mountains, together with all its forests and every inhabitant thereof, and the Soors accompanied him into the presence of the Ocean, whom they addressed, saying, "We will stir up thy waters to obtain the Amreeta:"—and the lord of the waters replied, "let me also have a share, seeing I am to bear the violent agitations that will be caused by the whirling of the mountain." Then the Soors and Assoors spake unto Courmarajah, the king of the tortoises, upon the strand of the ocean, and said, "my lord is able to be the supporter of this mountain." The tortoise replied "be it so"! and it was placed upon his back.

"So the mountain being set upon the back of the tortoise, Eendra began to whirl it about as it were a machine. The mountain Mandar served as a churn, and the serpent Vasooke for the

* The yojan is an ancient Indian measure, in extent about four miles.

rope; and thus, in former days, did the Dewtahs, the Assoors, and the Danoos, begin to stir up the waters of the ocean for the discovery of the Amreeta. The mighty Assoors were employed on the side of the serpent's head, whilst all the Soors assembled about his tail. Ananta, that sovereign Dew, stood near Narayen.

"They now pull forth the serpent's head repeatedly, and as often let it go: while there issued from his mouth, thus violently drawing to and fro by the Soors and Assoors, a continual stream of fire, and smoke, and wind; *which ascending in thick clouds, replete with lightning, it began to rain down* upon the heavenly bands, who were already fatigued with their labour, whilst a shower of flowers was shaken from the top of the mountain, covering the heads of all, both Soors and Assoors. In the mean time *the roaring of the ocean, whilst violently agitated* with the whirling of the mountain Mandar by the Soors and Assoors, was like the bellowing of a mighty cloud. Thousands of the various productions of the waters were torn to pieces by the mountain, and confounded with the briny flood; and every specific being of the deep, and all the inhabitants *of the great abyss which is below the earth were annihilated*; whilst, from the violent agitation of the mountain, the forest trees were dashed against each other, and precipitated from its utmost height, with all the birds thereon; from the violent confrication of all which a raging *(volcanic)* fire was produced, involving the whole mountain with smoke and flame, as with a dark blue cloud and the vivid flash of lightning. The lion and the retreating elephant are overtaken by the devouring flames, and every vital being and every individual object are consumed in the general conflagration. The raging flames, thus spreading destruction on all sides, were at length quenched by a shower of cloud-borne water poured down by the immortal Eendra. And now a heterogeneous stream of the concocted juice of various trees and plants ran down into the briny flood. It was from this milk-like stream of juices, produced from

those streams, trees, and plants, and a mixture of melted gold, that the Soors obtained their immortality.

"The waters of the ocean now being assimilated with those juices, were converted into milk, and from that milk a kind of butter was presently produced; when the heavenly bands went again into the presence of Brahma, the granter of boons, and addressed him, saying—"Except Narayen, every other Soor and Assoor is fatigued with his labour, and still the Amreeta doth not appear; wherefore the churning of the ocean is at a stand." Then Brahma said unto Narayen—"Endue them with recruited strength, for thou art their support." And Narayen answered and said—"I will give fresh vigour to such as co-operate in the work. Let Mandar be whirled about and the bed of the ocean be kept steady."

"When they heard the words of Narayen, they all returned again to the work, and began to stir about with great force that butter of the ocean: when there presently arose from out of the troubled deep——first the moon, with a pleasing countenance, shining with ten thousand beams of gentle light; next followed Sree, the goddess of fortune, whose seat is the white lily of the waters; then Soora-Devee, the goddess of wine, and the white horse called Oochisravar.* And after these there was produced, from the unctuous mass, the jewel Kowstoobh, that glorious sparkling gem worn by Narayen on his breast; then Pareejat, the tree of plenty, and Soorabhee, the cow that granted every heart's desire.†

"The moon, Soora-Devee, the goddess Sree, and the horse as swift as thought, instantly marched away towards the Dews, keeping in the path of the sun.

"Then the Dew Dhanwantaree, in human shape, came forth, holding in his hand a white vessel filled with the immortal juice

* See this celebrated horse, with seven heads, engraved on the plate annexed.

† See on the same plate this famous cow, called the Cow of Plenty.

Amreeta. When the Assoors beheld these wondrous things appear, they raised their tumultuous voices for the Amreeta, and each of them clamorously exclaimed—"This of right is mine!"

"In the mean time Iravat, a mighty elephant,* arose, now kept by the god of thunder; and as they continued to churn the ocean more than enough, that deadly poison issued from its bed, burning like a raging fire, whose dreadful fumes in a moment spread throughout the world, confounding the three regions of the universe with its mortal stench; until Seev, at the word of Brahma, swallowed the fatal drug to save mankind."†

Concerning these extravagant mythological details of the Hindoos, I must here repeat, that however mysterious the allegory, and however wild and romantic the language in which it is clothed, this fact may be depended upon, that there in general lies concealed at the bottom some astronomical meaning or deep theological truth. Divested of its inflated diction and fabulous incidents, the invention of an Oriental fancy, what can this general and stupendous convulsion of nature;—the mountain buried in the tempestuous bosom of the ocean; the ocean roaring and raging amidst the conflict of contending elements; the torrents of descending rain poured down by Eendra the Hindoo god of the firmament; the total annihilation of every living thing on the mountain, and of all the inhabitants of *the great abyss* which is below the earth (an expression very similar to the Scripture phrase of *all the fountains of the great deep*);—what can all this accumulation of magnificent and dreadful images shadow out, except the desolation of the earth during the period of the universal Deluge, when the Soors and Assoors, who may be considered as the ethereal ministers of the divine vengeance, were commissioned to harass the agitated globe? What can the incarnation of Veeshnu, the preserving power of India, in the form of a vast tortoise, to support the ponderous mass

* See on the plate this mighty elephant. † Geeta, p. 149.